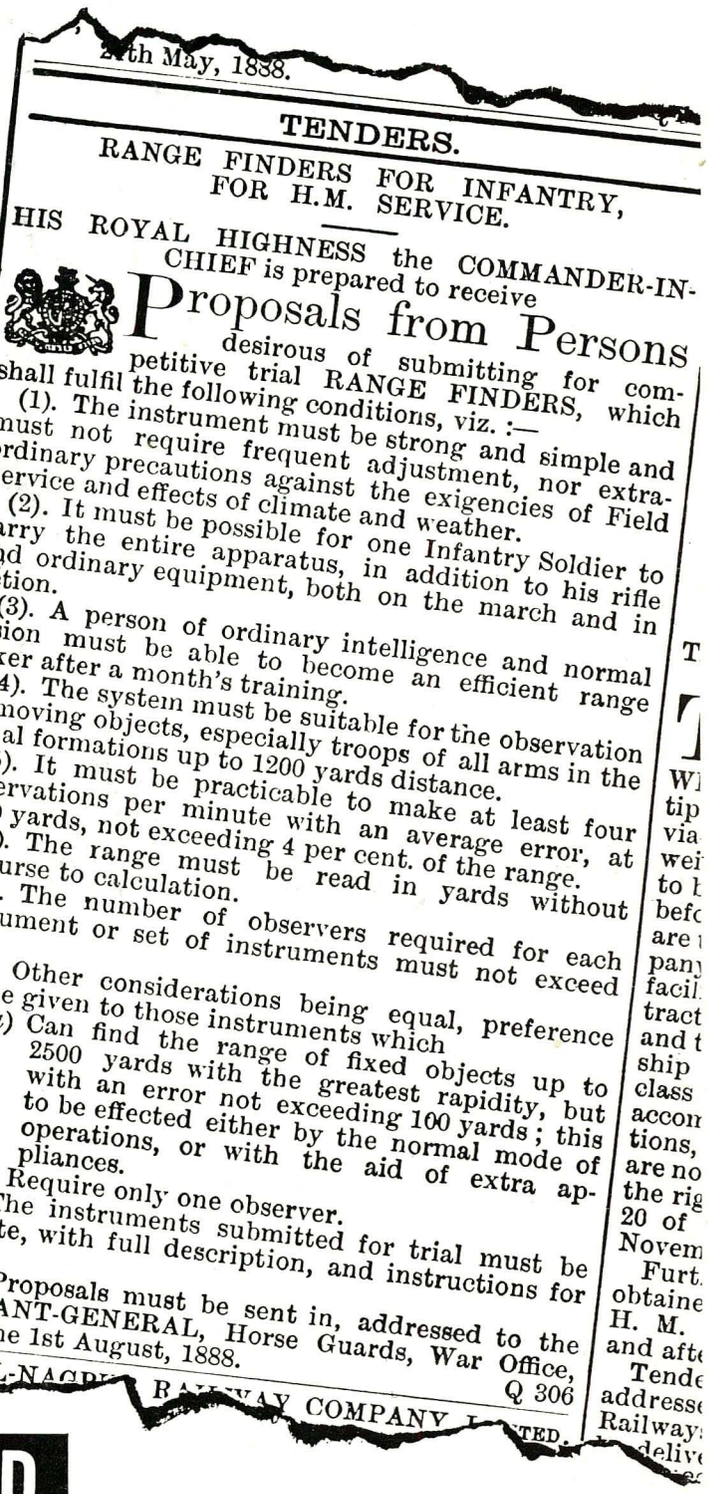
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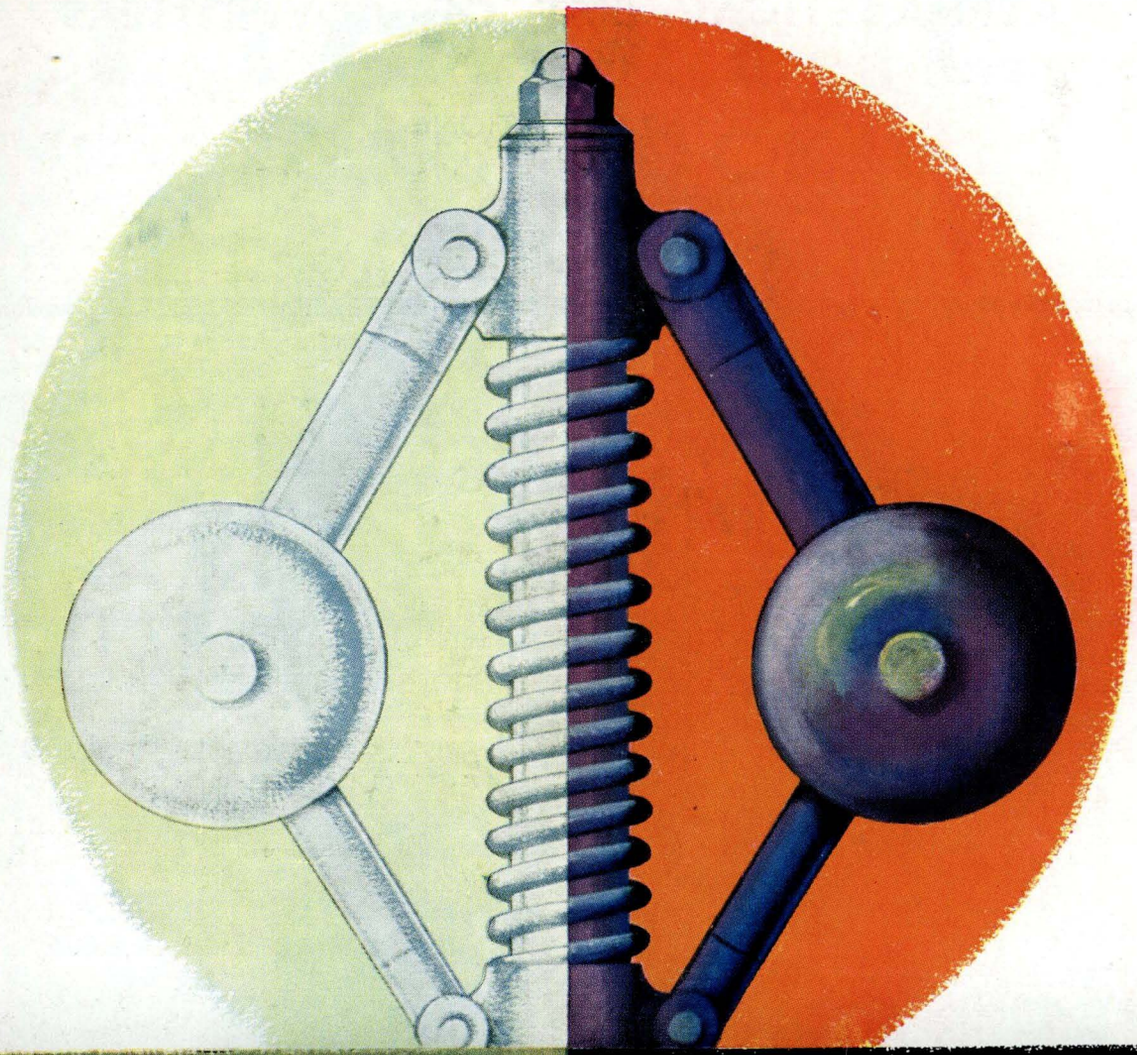
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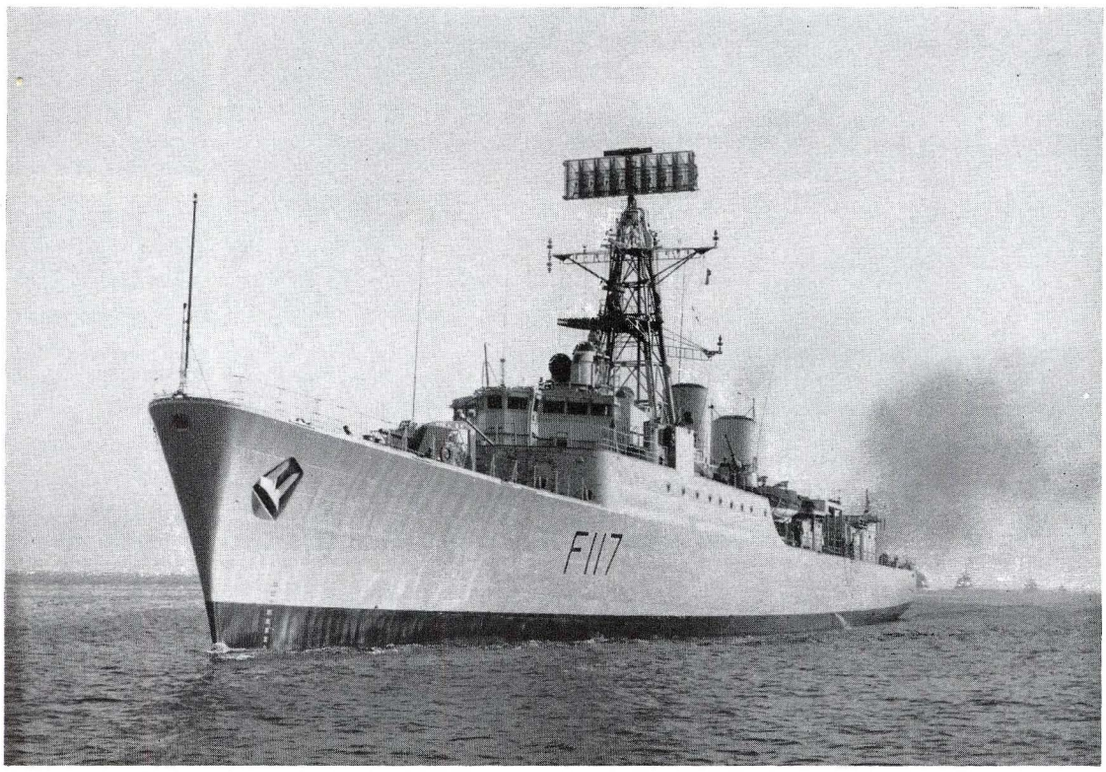
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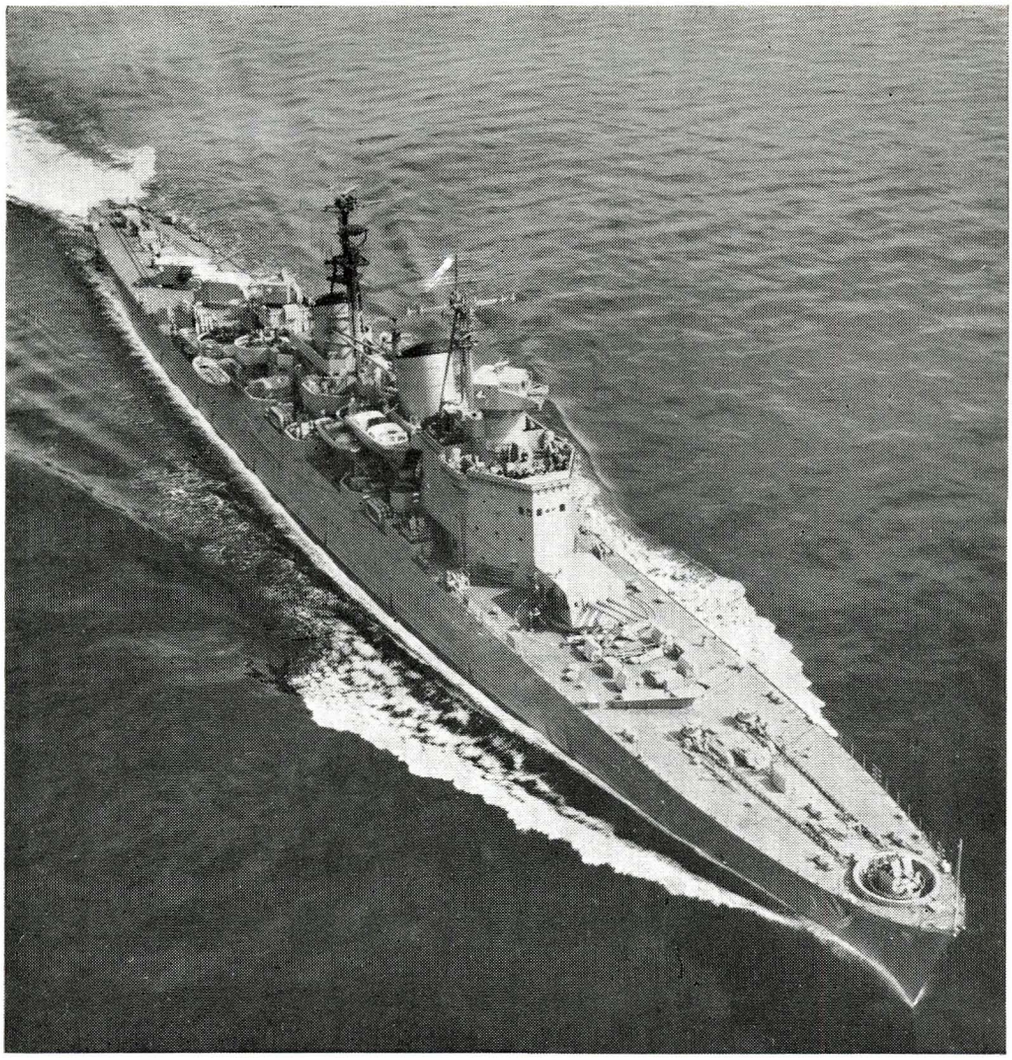
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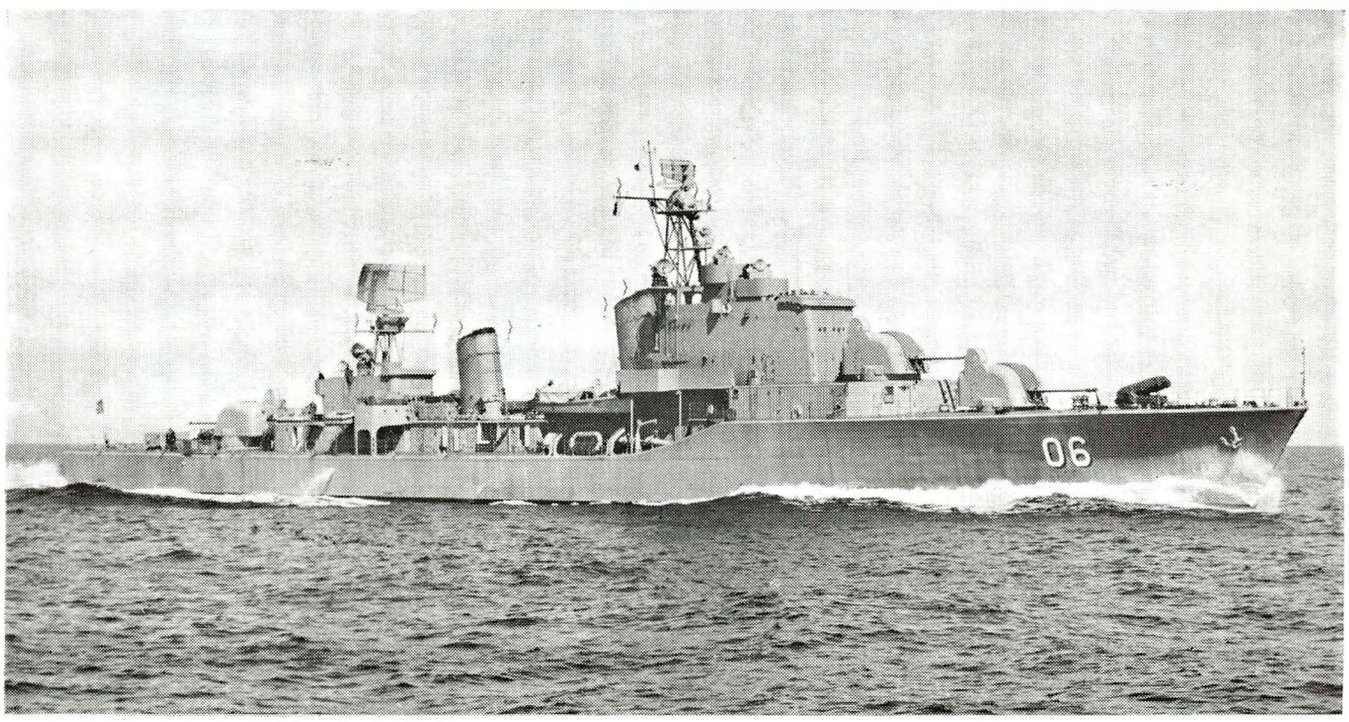
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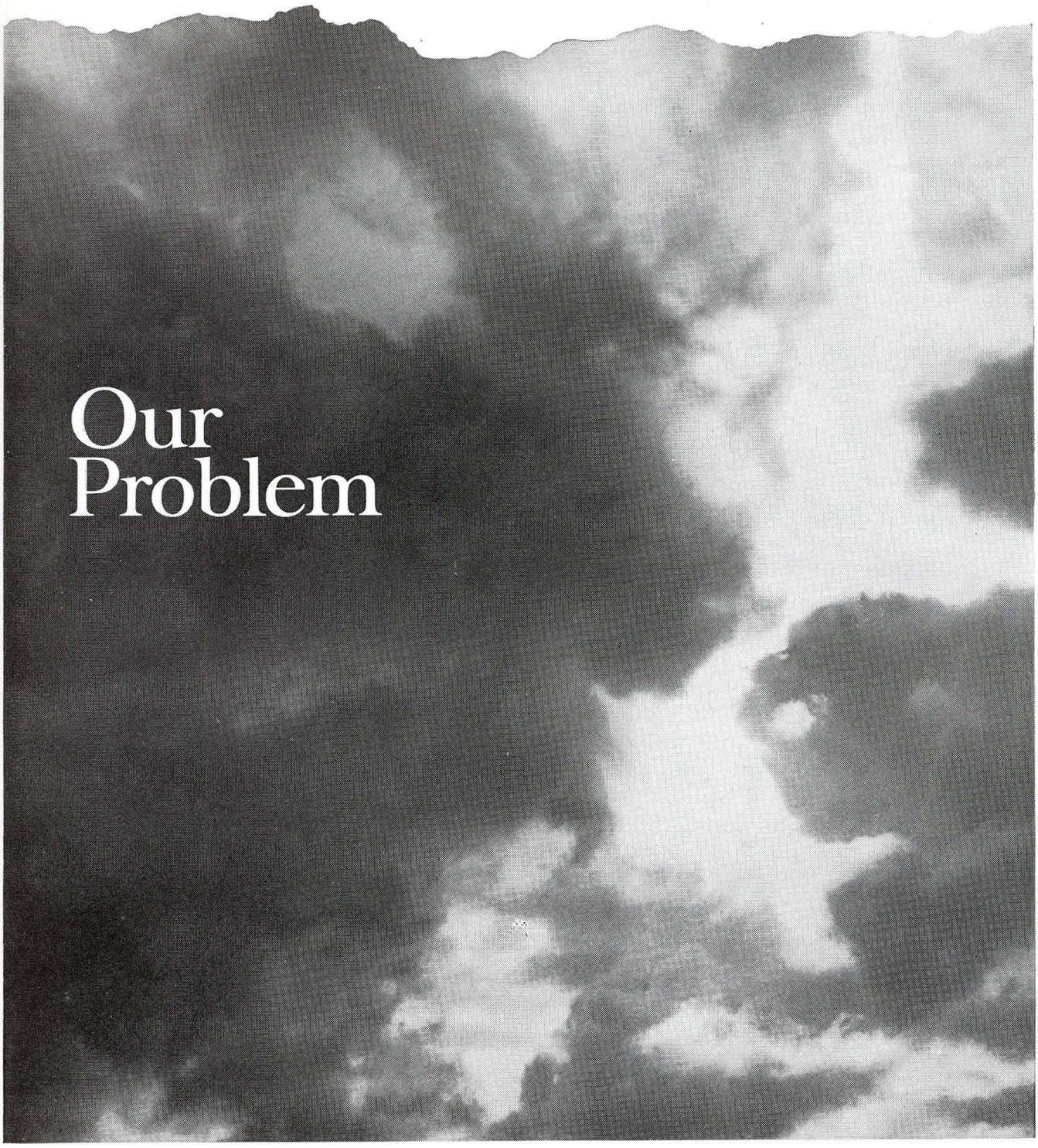
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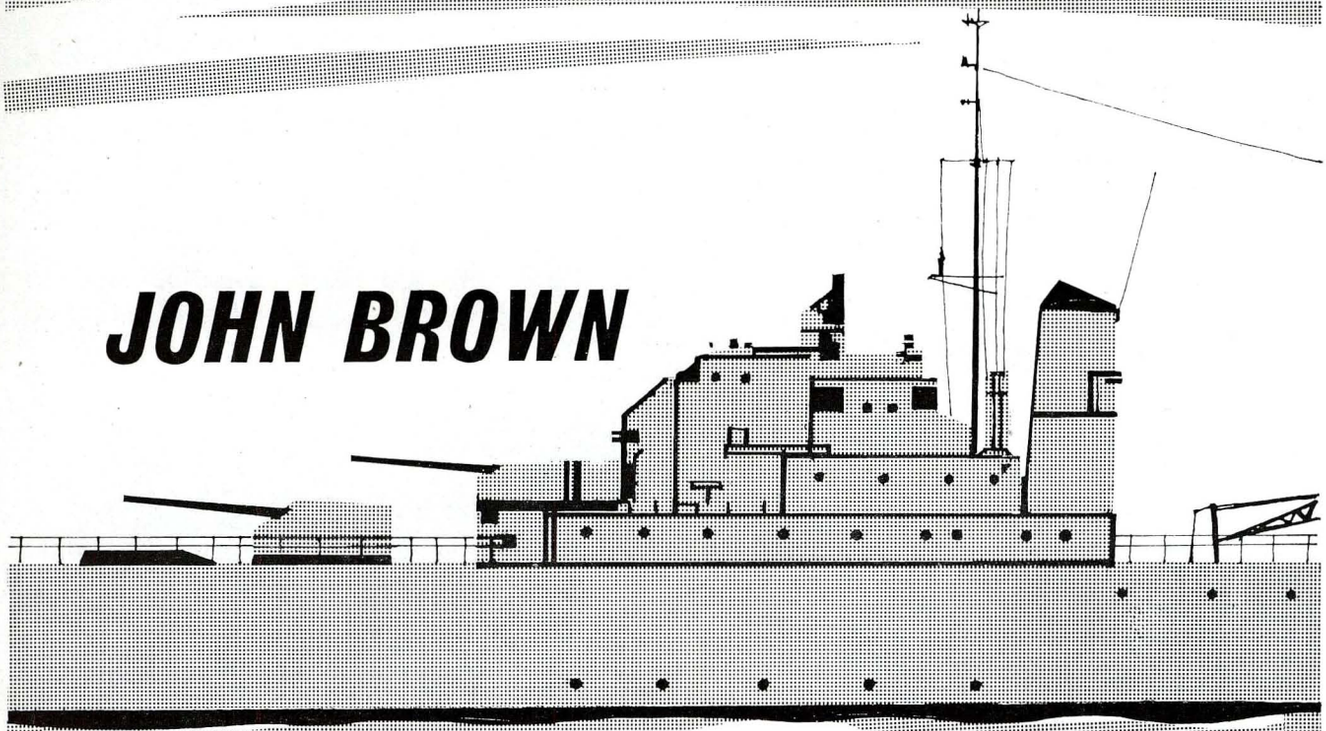
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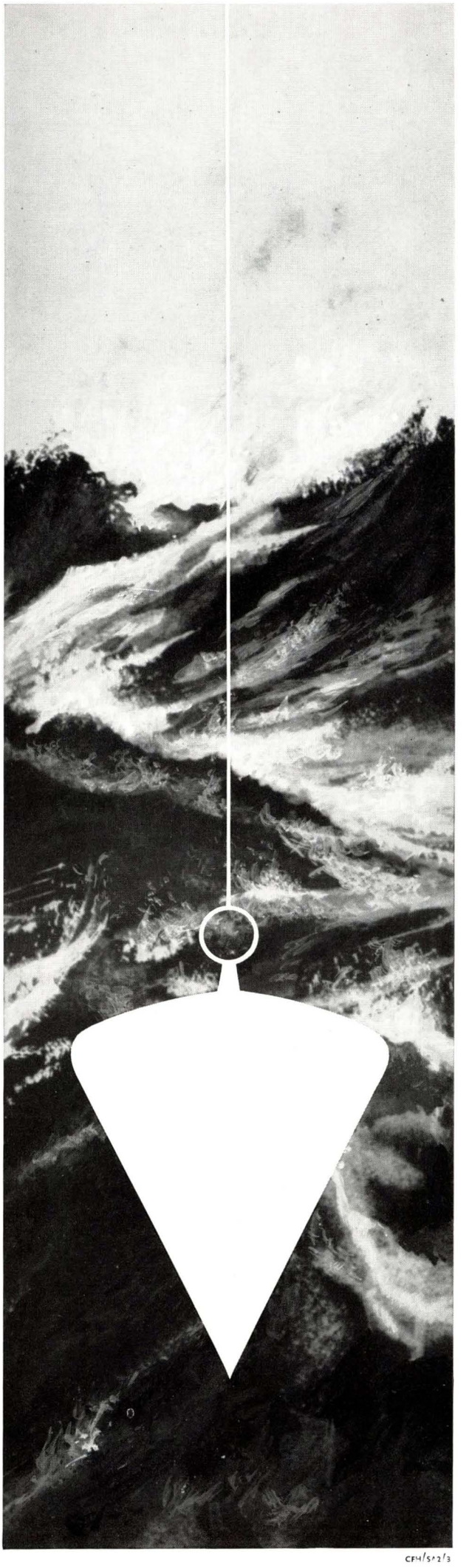
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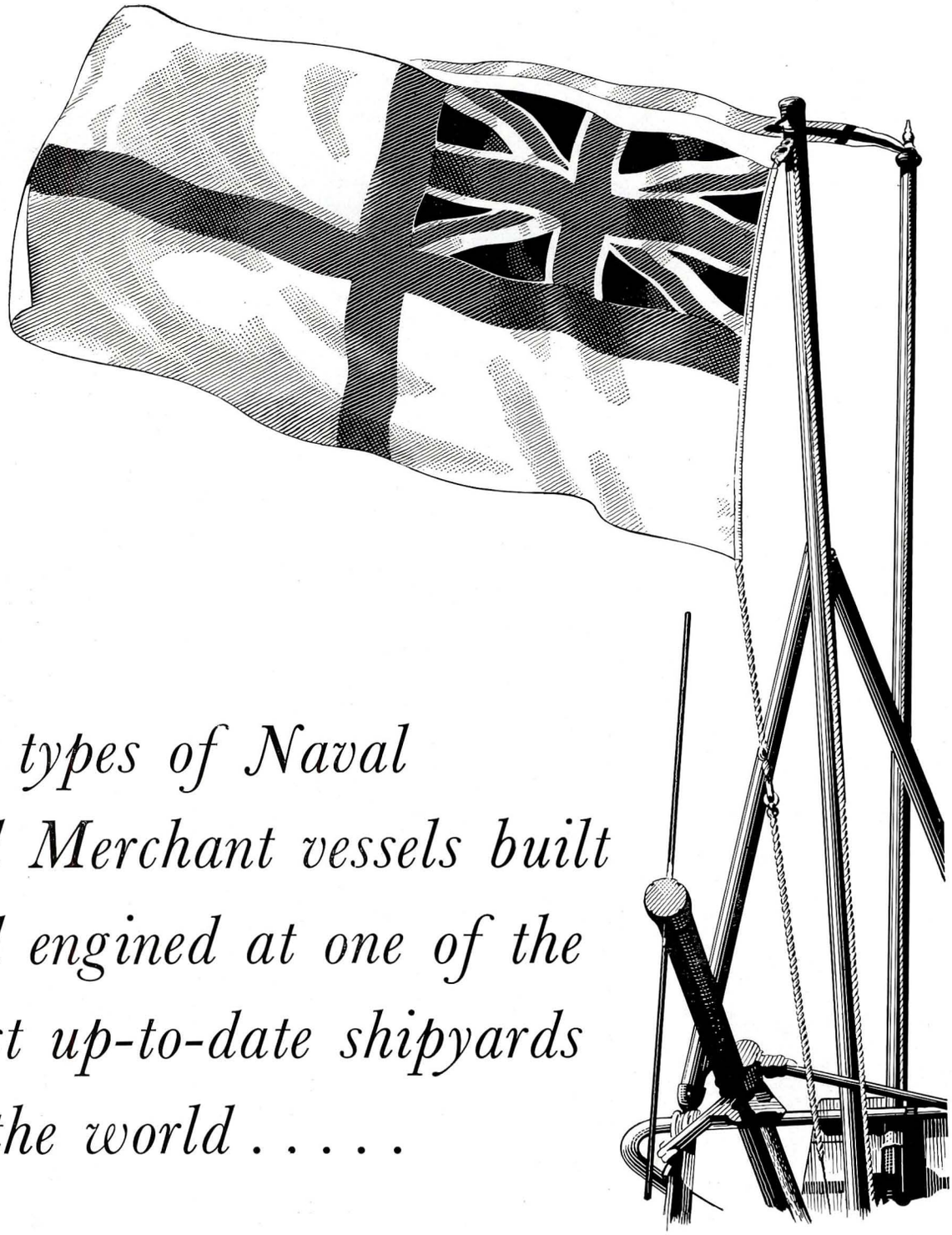
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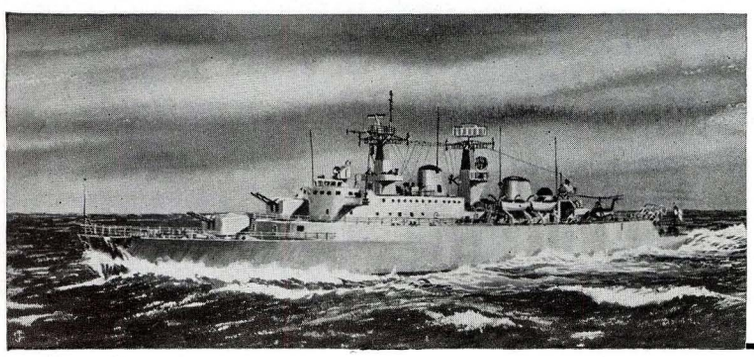


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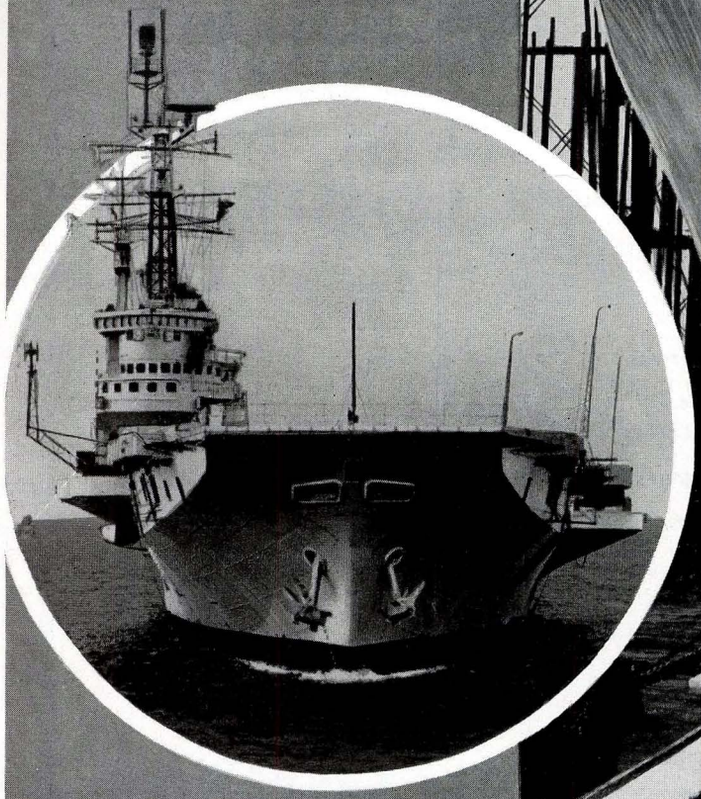
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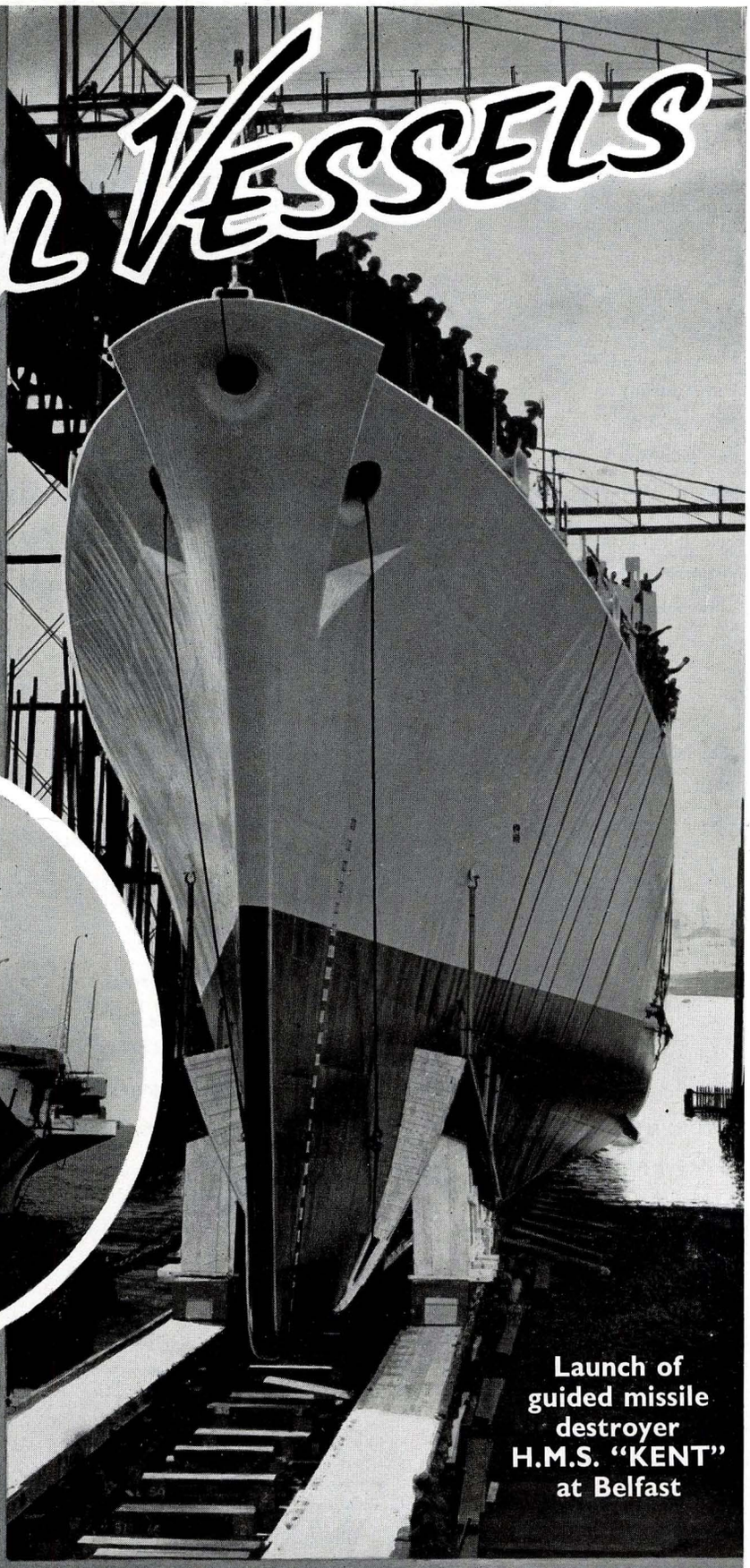
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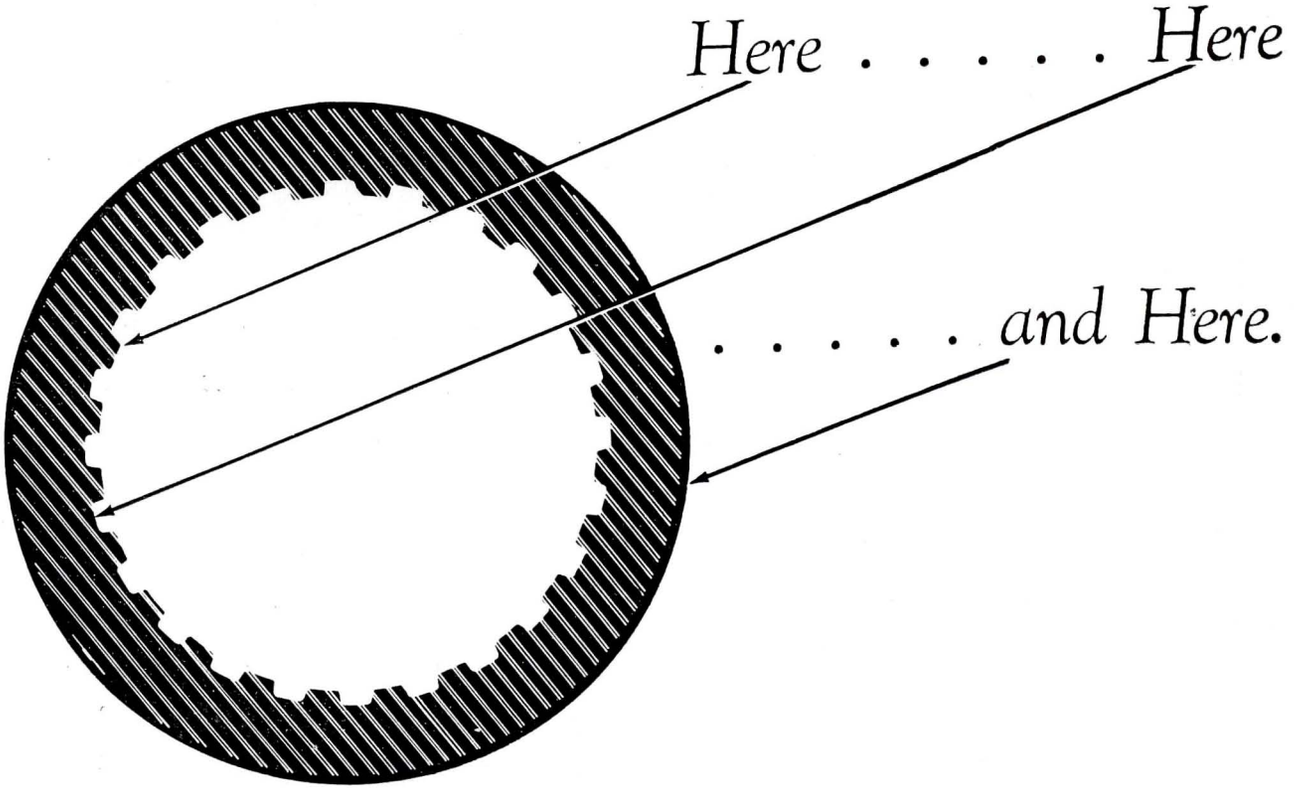
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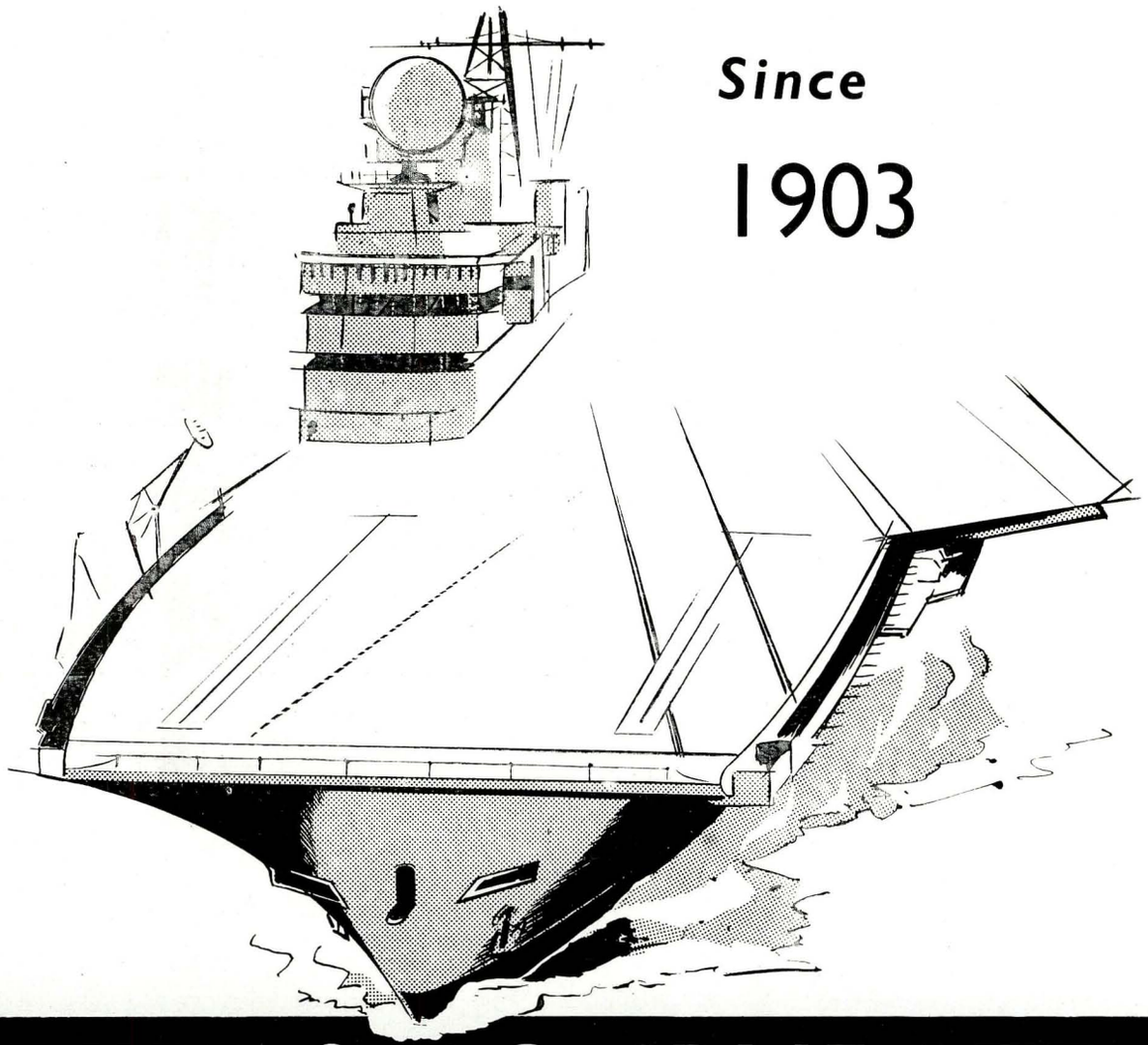
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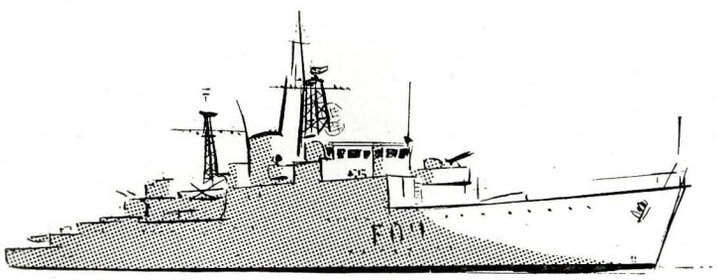


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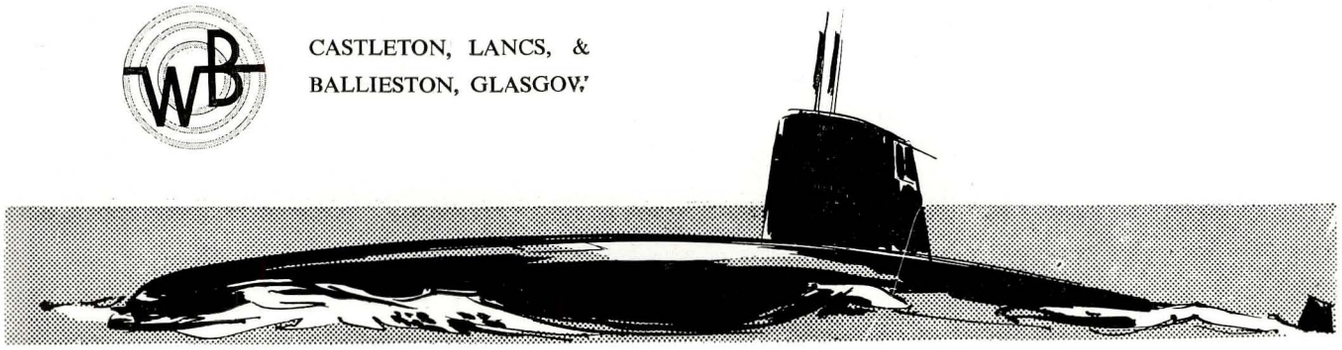
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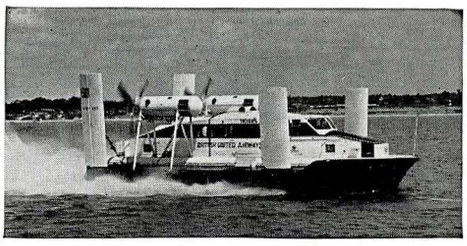
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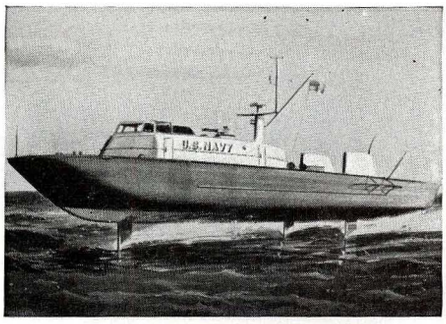
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High-speed diesel engines 360 bhp to 3,500 bhp

Lightweight gas turbines 400 bhp to 22,000 bhp



Vickers VA-3 Hovercraft is powered by four Bristol Siddeley Turmo gas turbines.

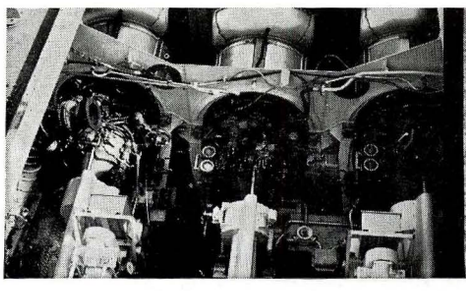


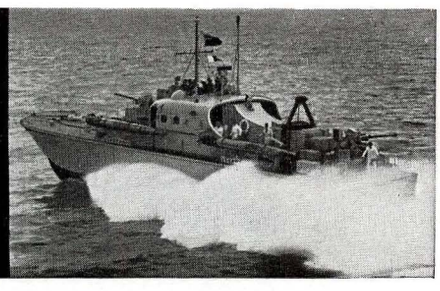
Boeing hydrofoil Now being built for the US Bureau of Ships, the Boeing hydrofoil PC(H) will be powered by two Marine Proteus gas turbines.

Pfeil is a German fast patrol boat built by Vosper Ltd and powered by two Marine Proteus gas turbines.



Brave Borderer and **Brave Swordsman** are in service with the Royal Navy. They are each powered by three Marine Proteus gas turbines which give the craft a top speed in excess of 50 knots.





Bristol Siddeley diesels are manufactured under licence from Maybach-Motorenbau GmbH. The Bristol-Siddeley Turmo is manufactured under licence from Société Turbomeca SA.

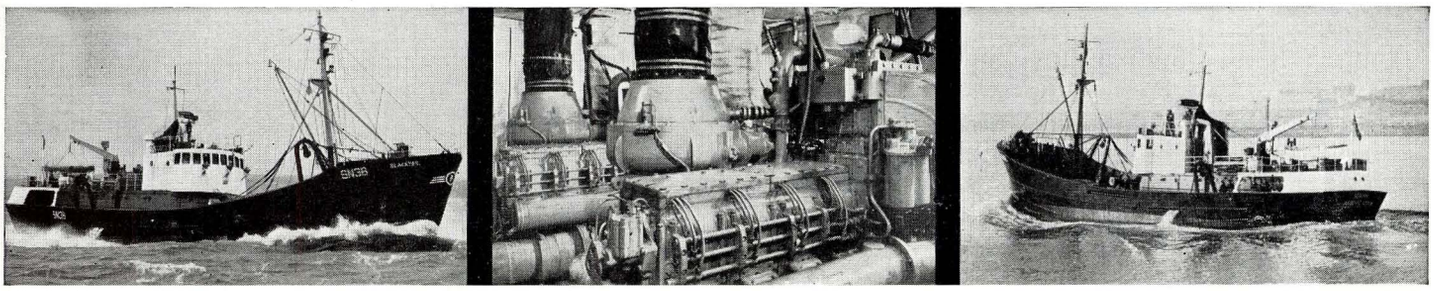
BRISTOL SIDDELEY SUPPLY THE POWER

Bristol Siddeley Engines Limited. Central Office: Mercury House, 195 Knightsbridge, London SW7. Power Division: PO Box 17, Coventry. Aero-Engine Division: PO Box 3, Filton, Bristol.

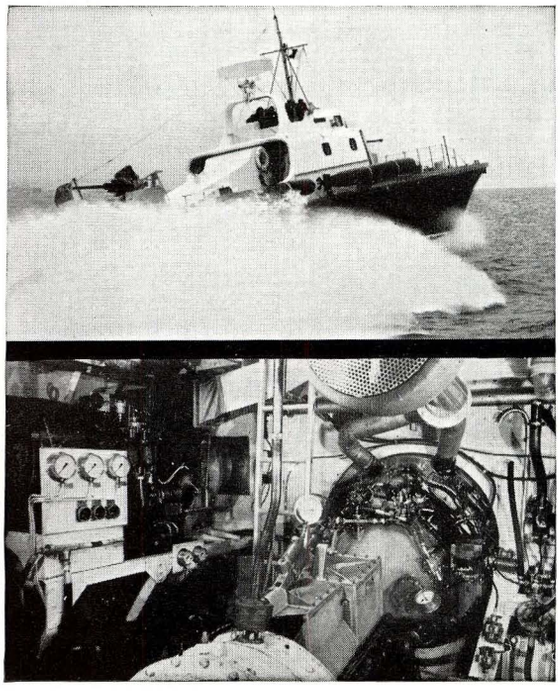
Bristol Siddeley produce high-speed diesels and lightweight gas turbines in a range of powers to suit the main or boost propulsion requirements of a wide variety of marine craft. All these power units have excellent power/weight ratios, combined with the highest degree of reliability and compactness.

Seven navies have already ordered Bristol Siddeley engines for a variety of craft from patrol boats to hydrofoils. Bristol Siddeley also powers the Westland SRN-2 and the Vickers VA-3 Hovercraft, and the trawlers "Blacktail" and "Dorade," the first two ships of a new fleet to be powered exclusively by Bristol Siddeley diesels.

Bristol Siddeley marine power units are amongst the most advanced in the world . . . and their design has been proved in service.



Blacktail and **Dorade** are each powered by two 394-bhp diesels. They are the first of a new Bristol Siddeley powered trawler fleet now being built by Seawork Ltd.

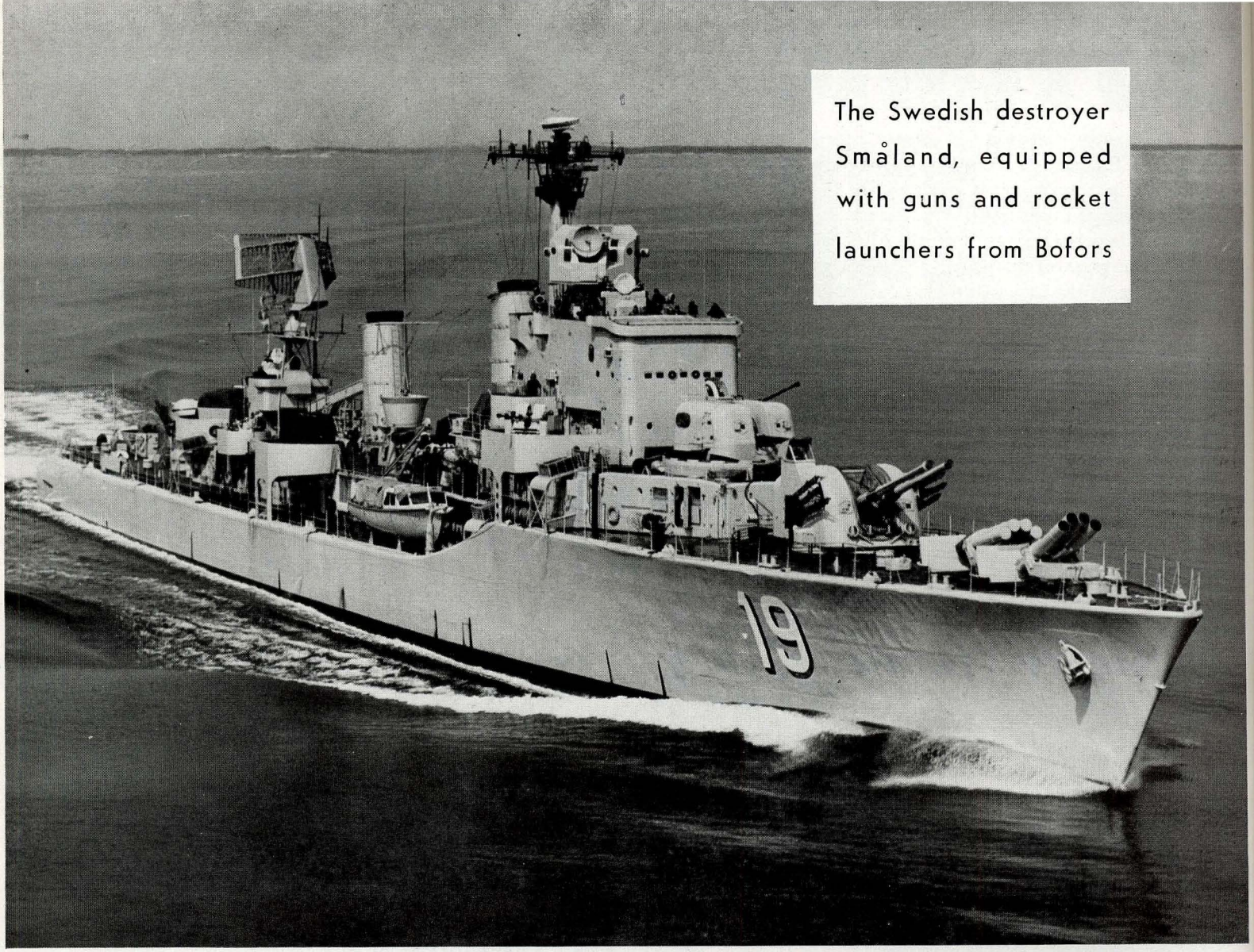


Ferocity, an 88-ft patrol boat, built by Vosper Ltd, incorporates a twin-engined "V" drive Marine Proteus gas turbine installation developing a total of 8,500 bhp.



Malayan fast patrol boat— one of six being built by Vosper Ltd and powered by Bristol Siddeley diesels.

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The Swedish destroyer Småland, equipped with guns and rocket launchers from Bofors

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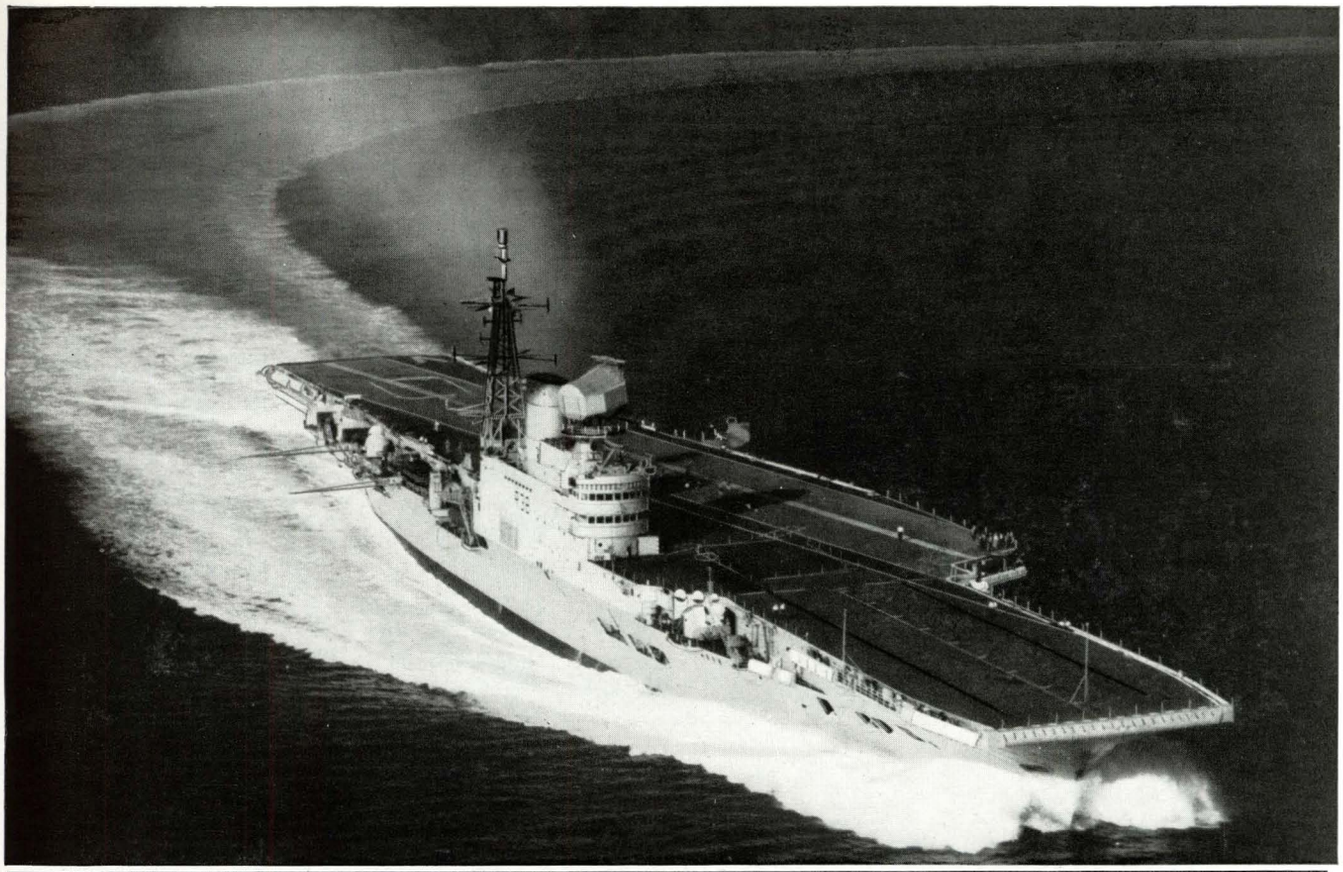
3 in. automatic gun in single turret mounting

57 mm automatic gun in single deck mounting

40 mm automatic gun in various mountings

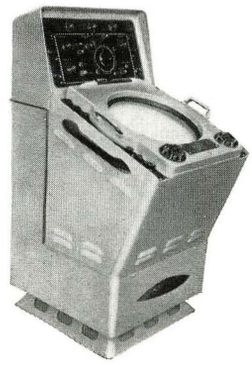
375 mm A/S rocket launchers

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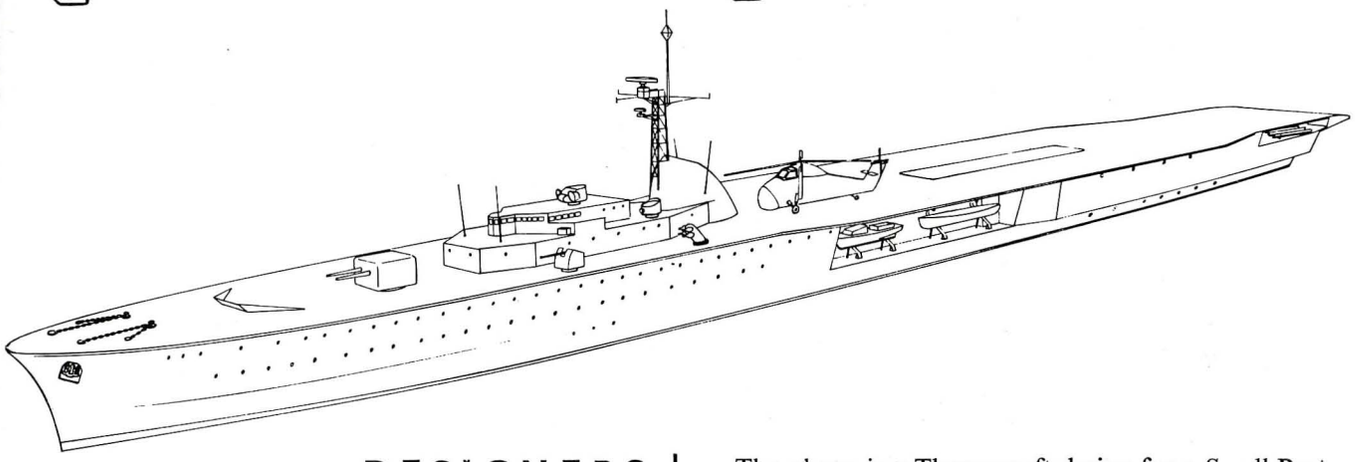
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Frigate "COMMANDANT RIVIERE" completed 1961

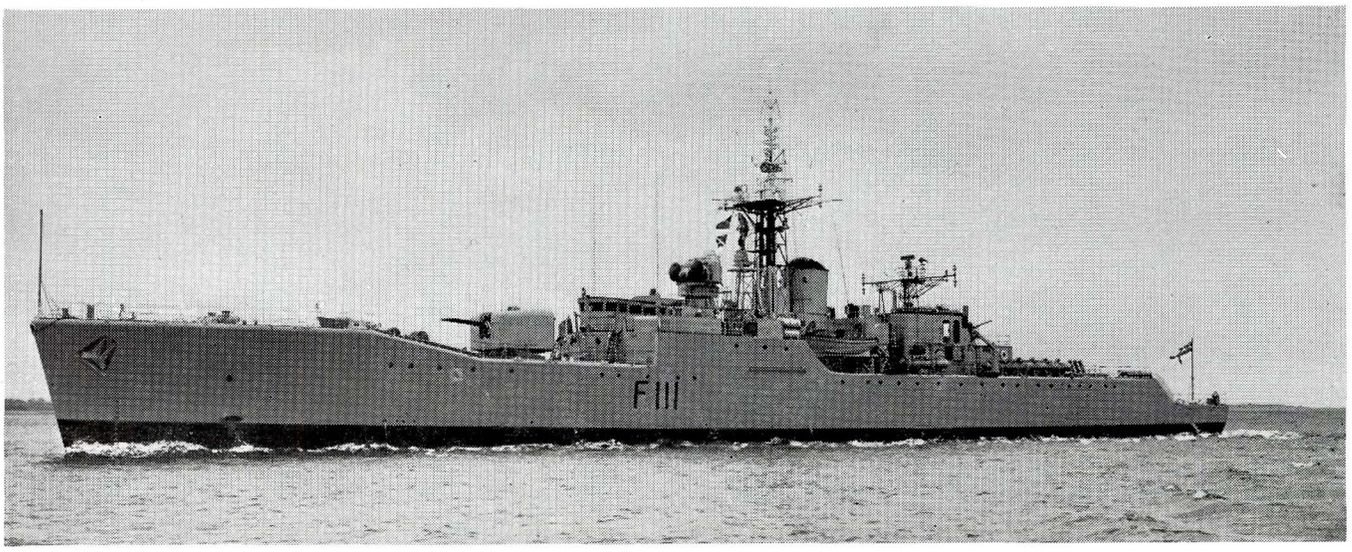


THORNYCROFT



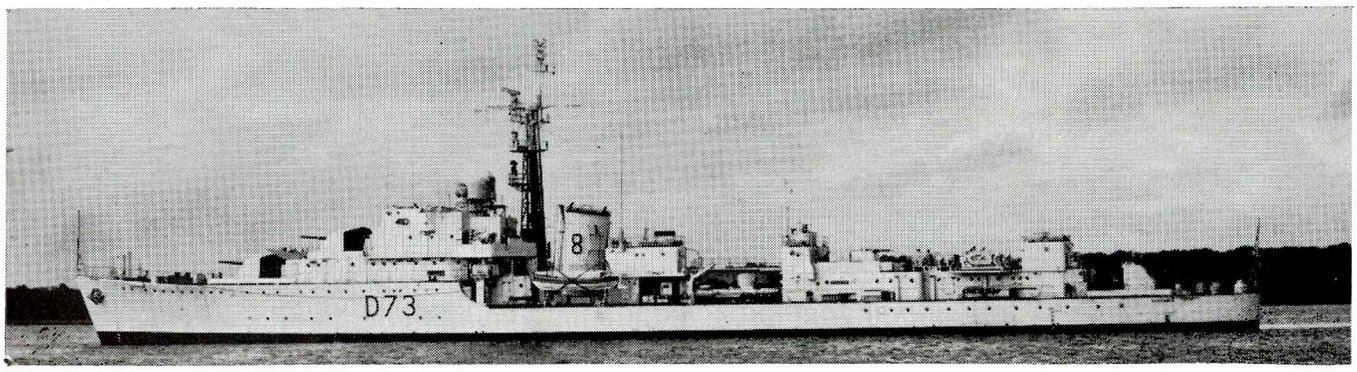
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Featured above is the Destroyer H.M.S. "Cavalier" refitted and modernised by our Repairs Department. Commonwealth and Foreign Warships have also been taken in hand.

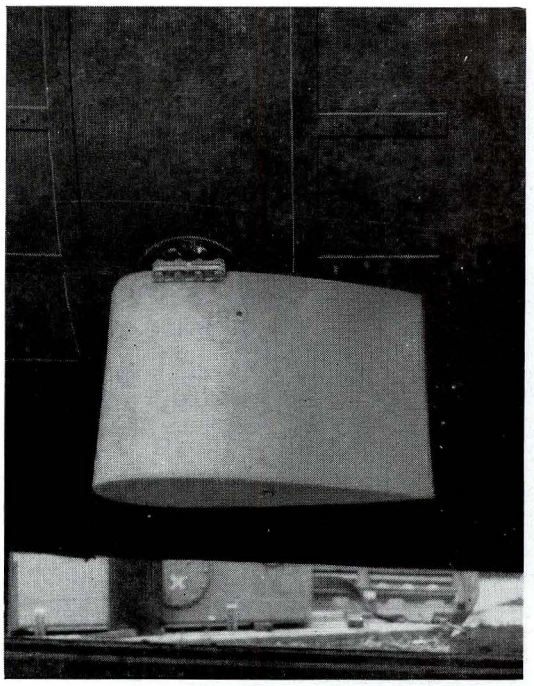
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Vosper Roll Damping Fins have now been ordered as a Class Modification for Coastal Minesweepers. Forty-two C.M.S. of the Royal Navy, Royal Australian Navy and South African Navy are now being fitted in addition to twelve other warships of the Royal Malayan Navy, Royal Nigerian Navy, Ghana Navy and South African Navy.



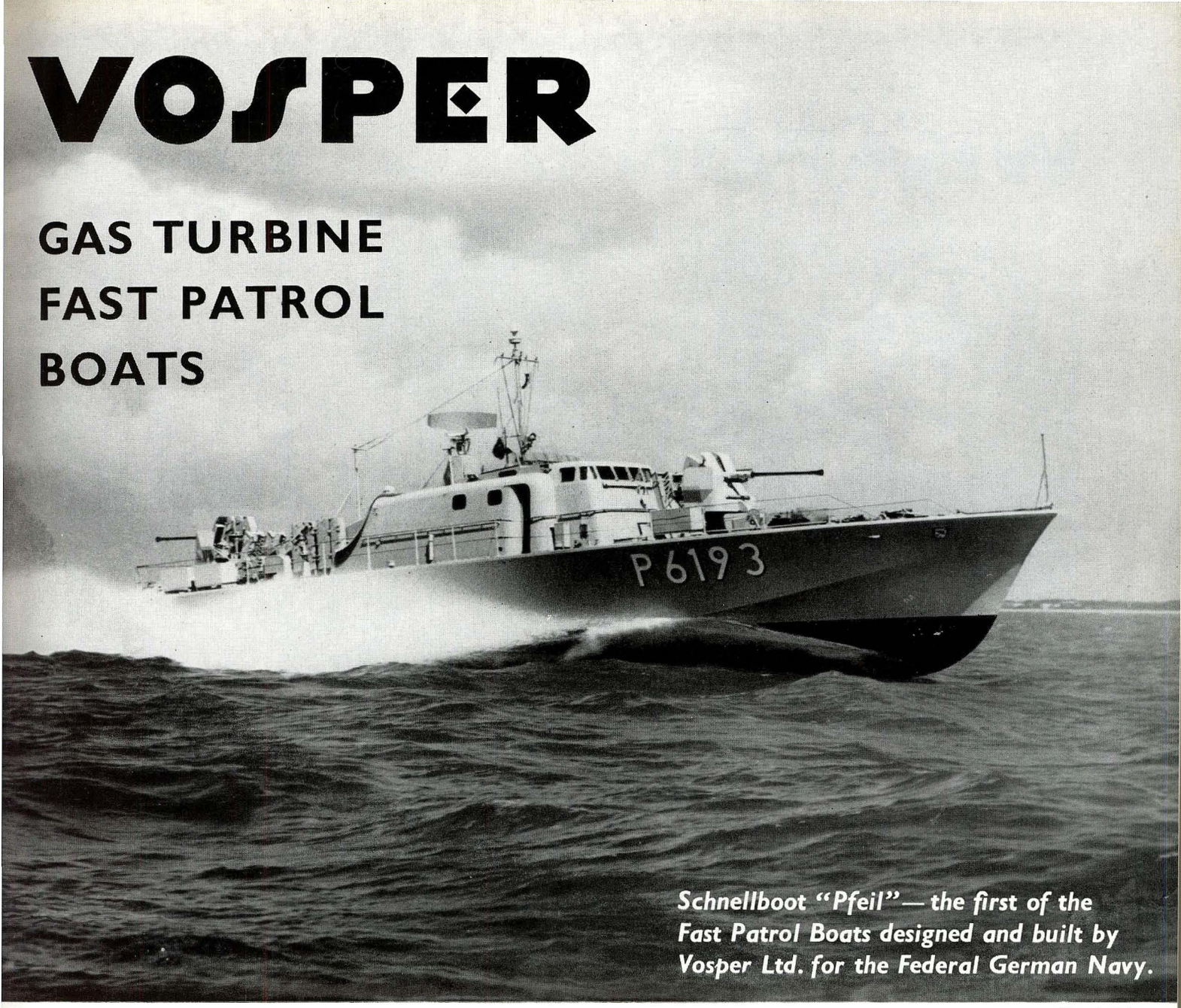
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VOSPER

GAS TURBINE FAST PATROL BOATS



Schnellboot "Pfeil"—the first of the Fast Patrol Boats designed and built by Vosper Ltd. for the Federal German Navy.

Photo by Beken

Following the-"Brave" class Fast Patrol Boats, Vosper designed and built F.P.B. "Ferocity" to demonstrate a number of novel features—

All wood construction, using glue instead of metal fastenings.
Two Bristol Siddeley Proteus gas turbines instead of three.
Diesel engines for cruising and manoeuvring.
Protection against atomic fall-out.

Orders have been received for Gas Turbine Fast Patrol Boats for the Federal German Navy and the Royal Danish Navy. For details see United Kingdom, German and Danish Sections.

Details of Vosper's latest diesel-engined Fast Patrol Boat can be found in the Malayan Section and of the Vosper/Vickers-Armstrongs Corvette design in the Ghana Section.

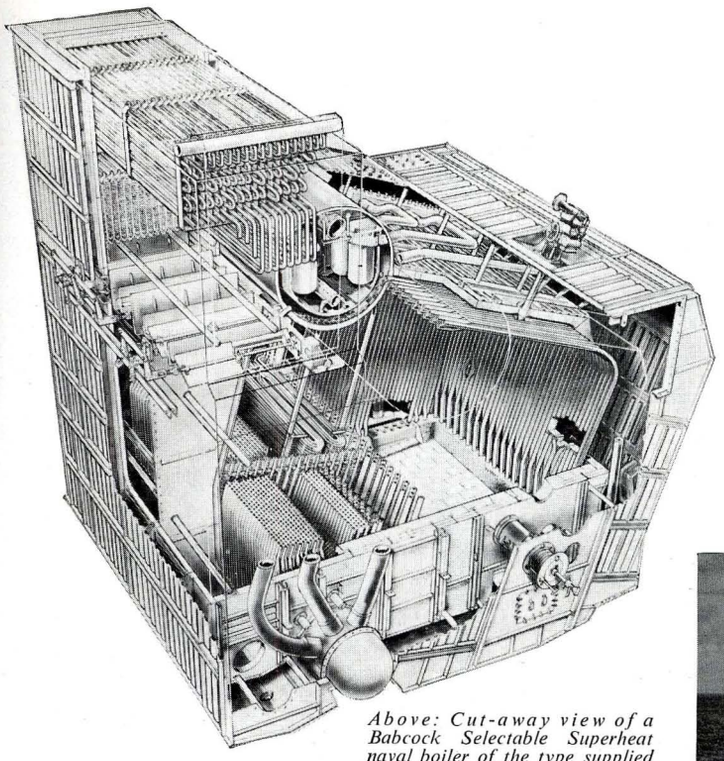
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WEAPON SYSTEMS

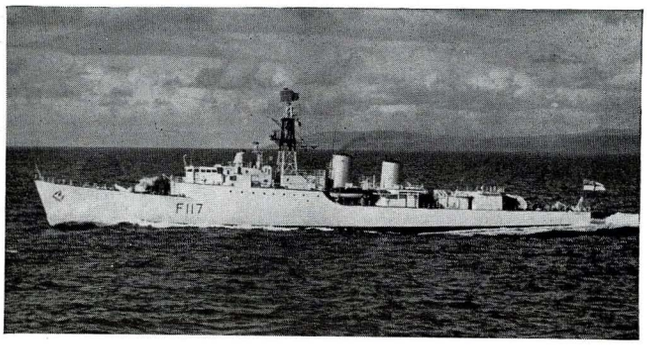


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STEAM POWER FOR THE MODERN NAVY



Above: Cut-away view of a Babcock Selectable Superheat naval boiler of the type supplied for all the Tribal class frigates and Devonshire class guided-missile destroyers.

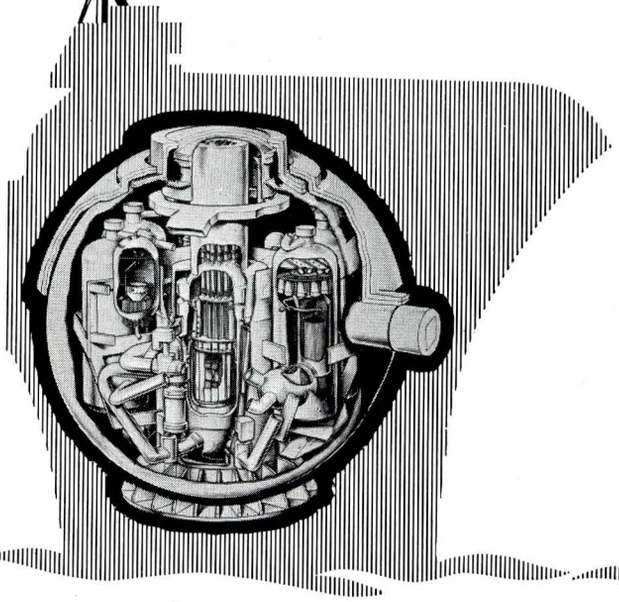


Right: H.M.S. ASHANTI, Tribal class frigate equipped with Selectable Superheat boilers.

Babcock Selectable-Superheat marine boilers are being used in over three-quarters of the vessels in the British post-war naval programme — including all the Tribal class frigates and the Devonshire class destroyers; and also for many post-war foreign naval vessels e.g. of Holland, Sweden and Yugoslavia. For over 10 years, also, Babcock and Wilcox Ltd. have pioneered in *nuclear* ship-propulsion developments, having put forward practical designs for complete marine nuclear steam-raising plants, which they are prepared to manufacture, in Great Britain. These developments include technical collaboration with The Babcock and Wilcox Company, of America, which has supplied the nuclear propulsion plant for N.S. Savannah and other vessels.

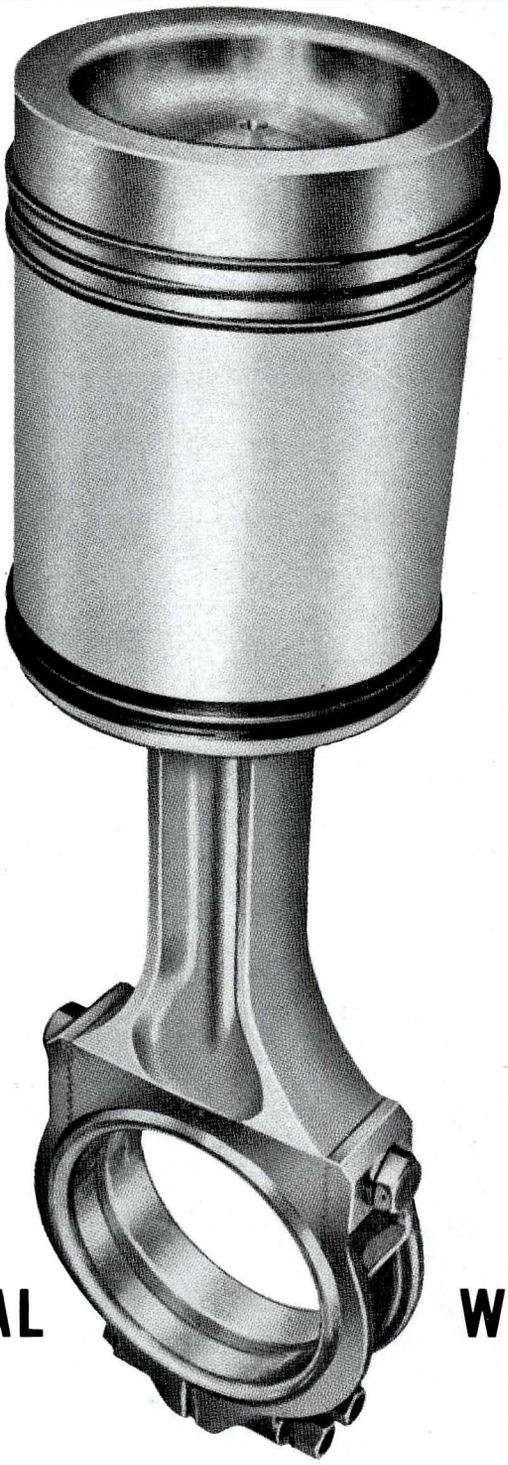
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conventional and nuclear steam-raising plant



Inset (right), cut-away view of a Babcock water-cooled reactor and steam-raising plant for nuclear-propulsion. Evaporation 616,000 lb./hr.; equivalent shaft horse-power approx. 65,000. Similar designs have been developed for equivalent shaft-horse power of the order of 20,000.

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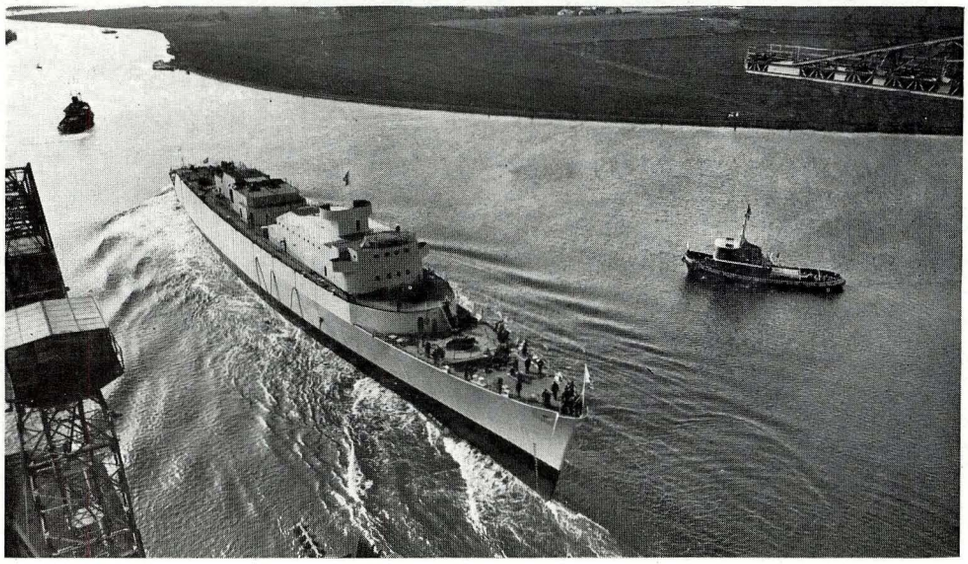
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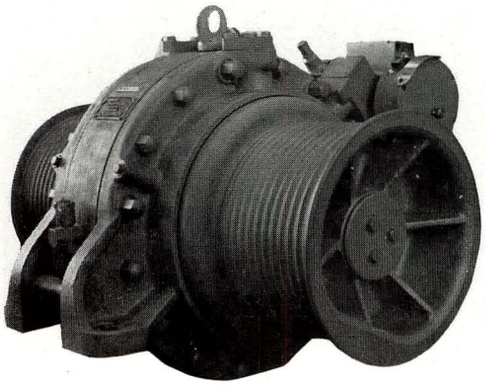
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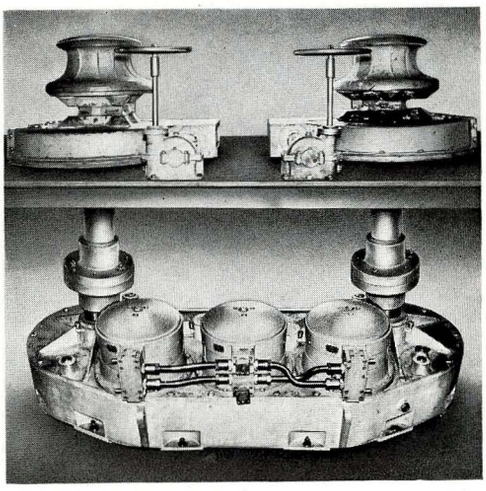
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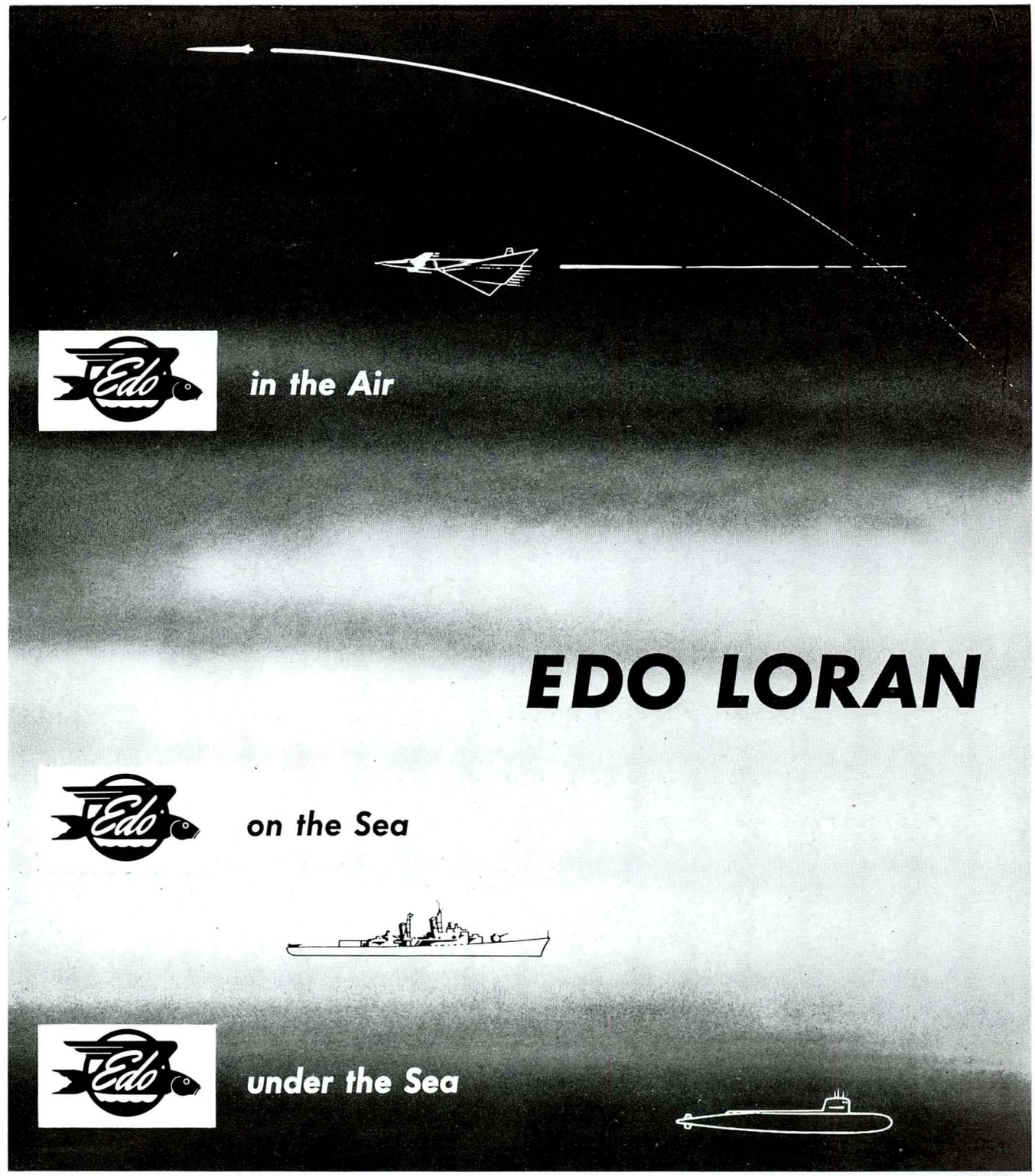
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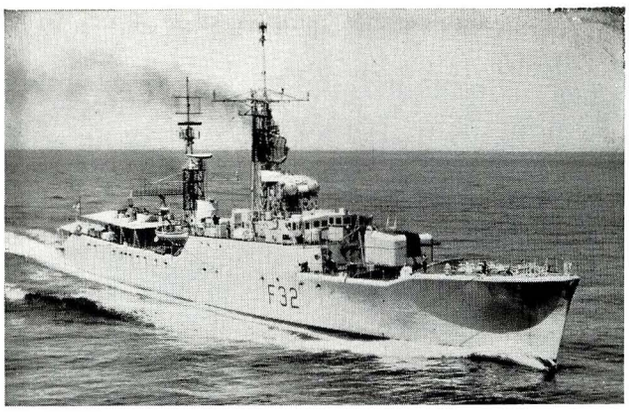


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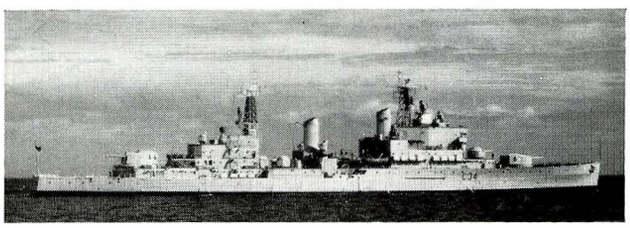
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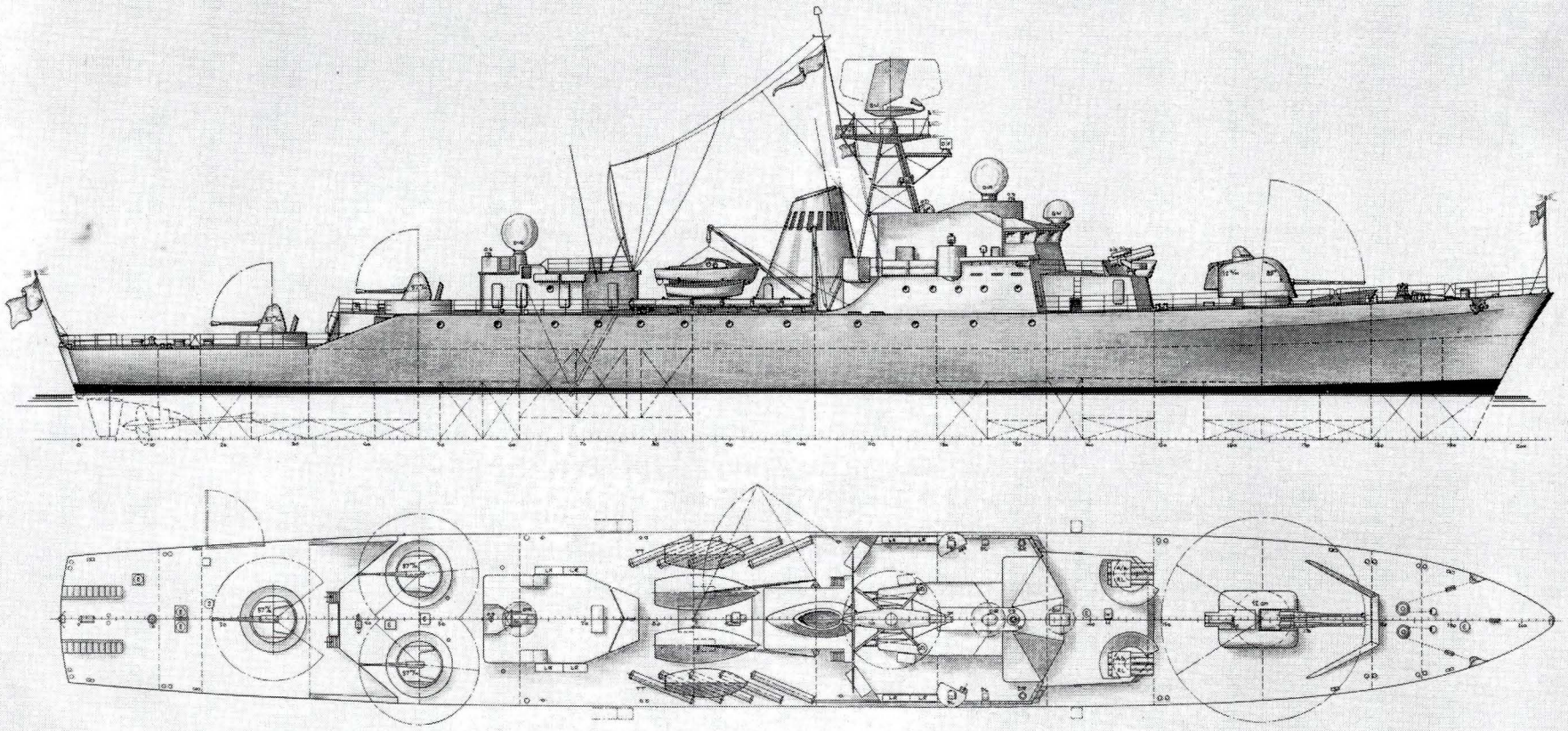
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LENGTH P.P.	321'- 6"
BREADTH MLD ON W.L.	38'- 6"
DEPTH MLD TO U.D.	27'- 9"
DRAUGHT STANDARD	10'- 4"
DISPLACEMENT STANDARD	1865 TONS
GEARED TURBINES	2 x 16.500 BHP
FUEL OIL	300 TONS
COMPLEMENT	198

ARMAMENT :

A/A GUNS : 1 - 12 cm AUTOMATIC TWIN L/50 [DUAL PURP.]
3 - 57 mm AUTOMATIC SINGLE L/60

A/S WEAPONS : 2 - 375 mm FOUR - BARRELLED A/S ROCKET LAUNCHERS
10 - HOMING TORPEDO TUBES
2 - DEPTH CHARGE RACKS

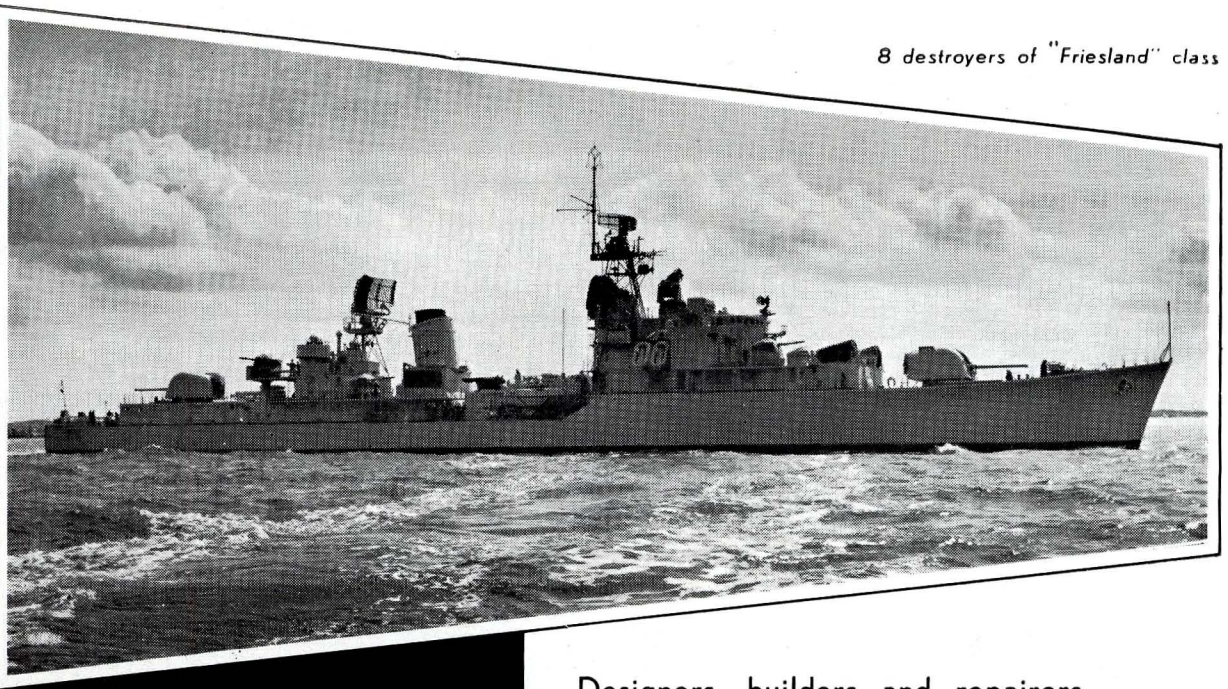
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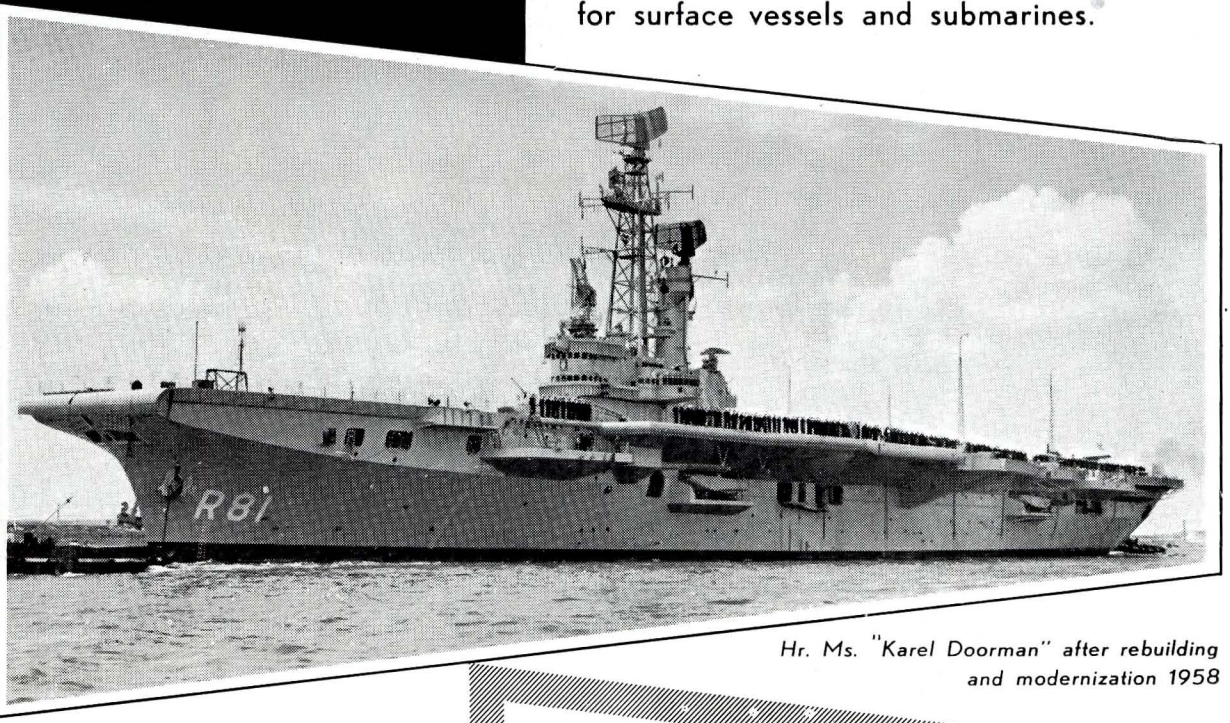


8 destroyers of "Friesland" class

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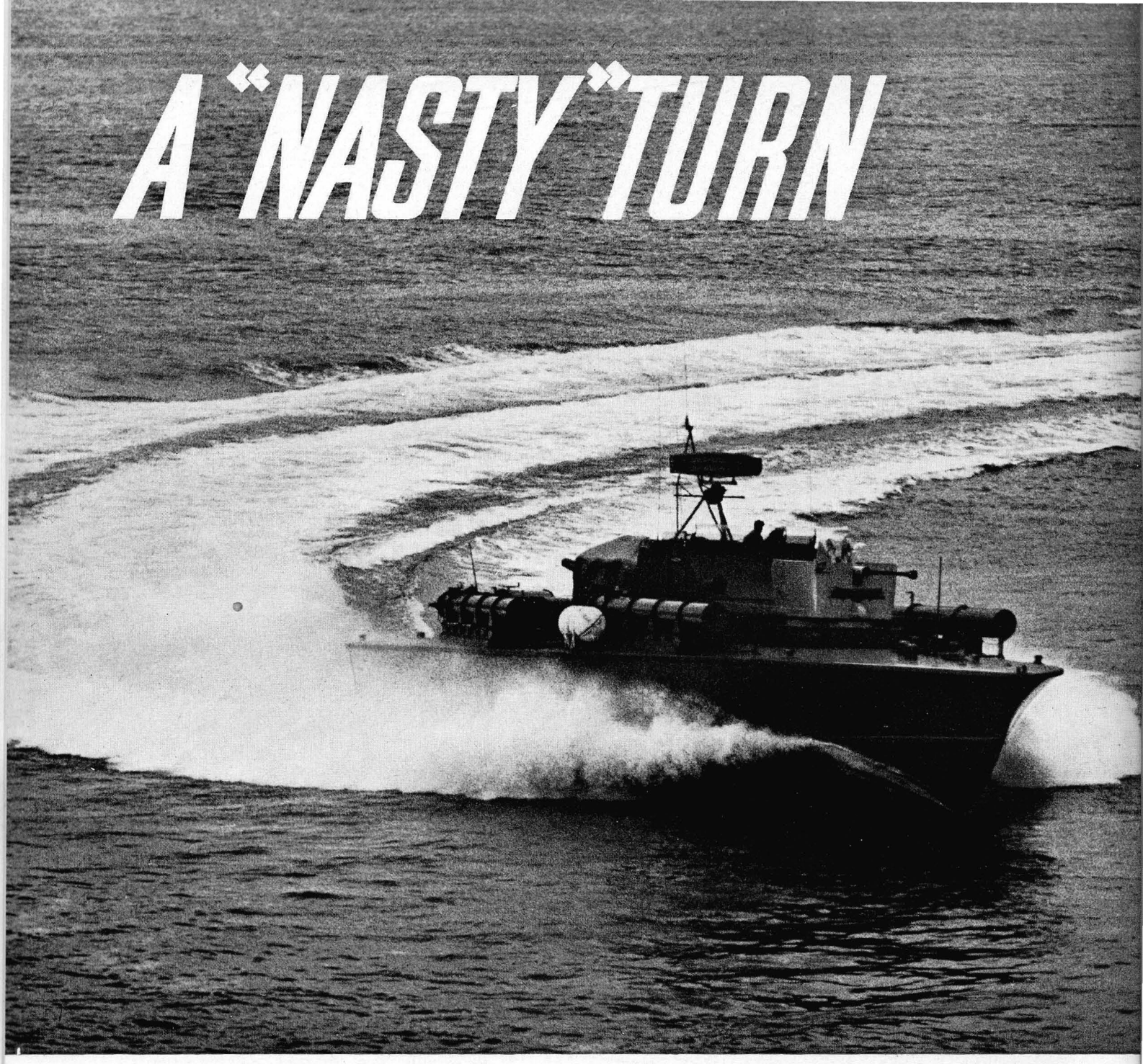
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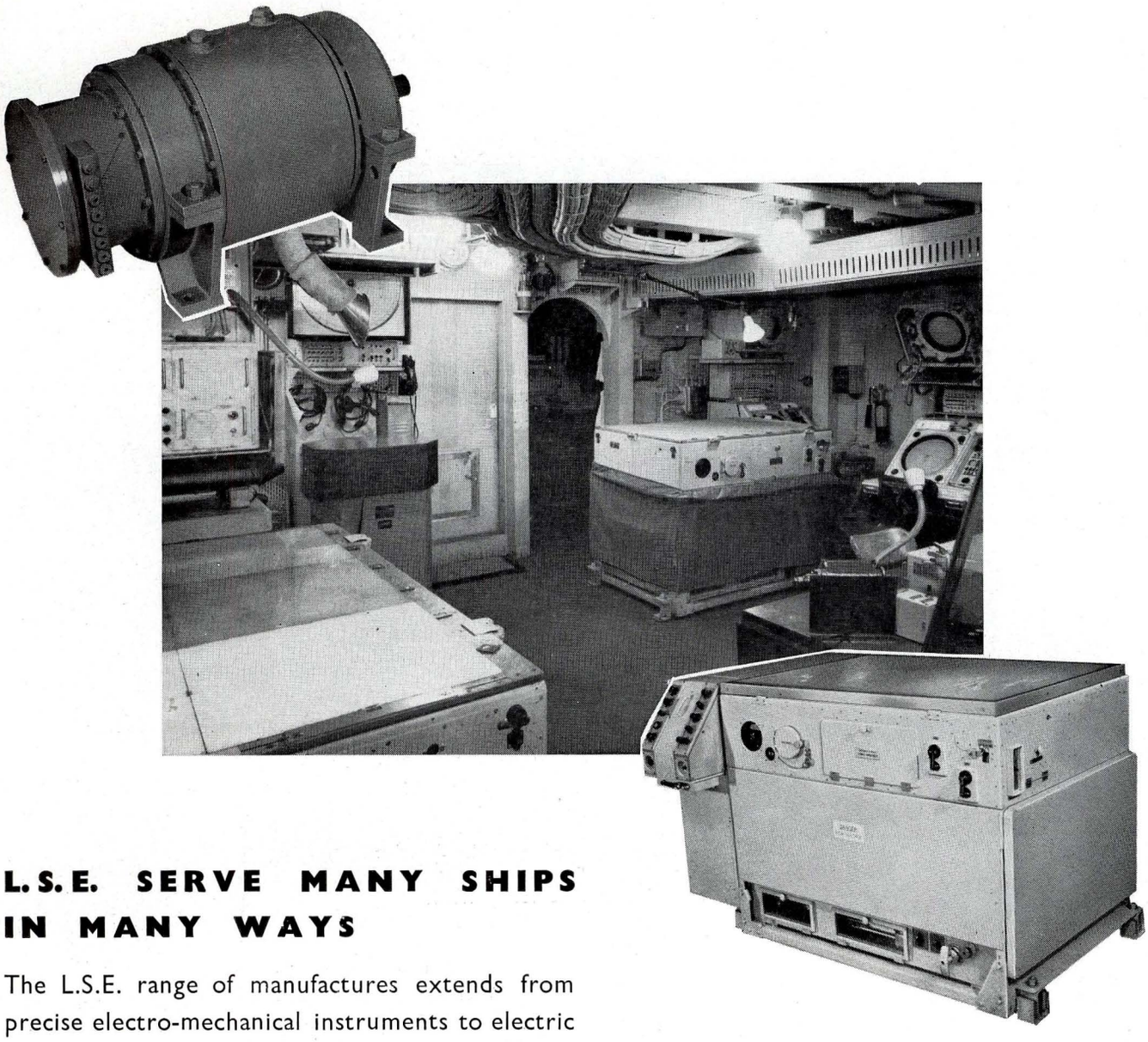


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Top left: L.S.E. shockproof motor, water-cooled for minimum dimensions.

Centre: L.S.E. Plotting Tables installed on H.M.S. Hermes (Admiralty official photograph).

Bottom right: L.S.E. Plotting Table with Radar attachment.

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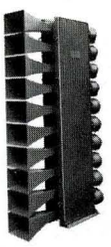


Weatherproof Microphone to current Admiralty specifications. Withstands complete immersion in water.



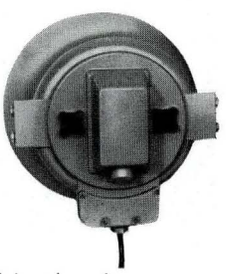
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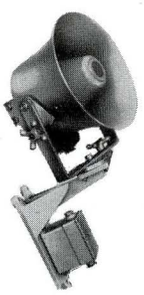
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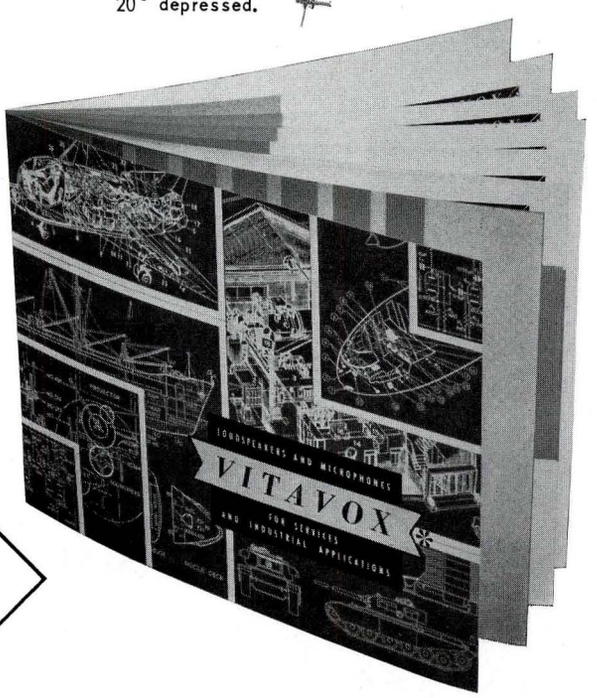
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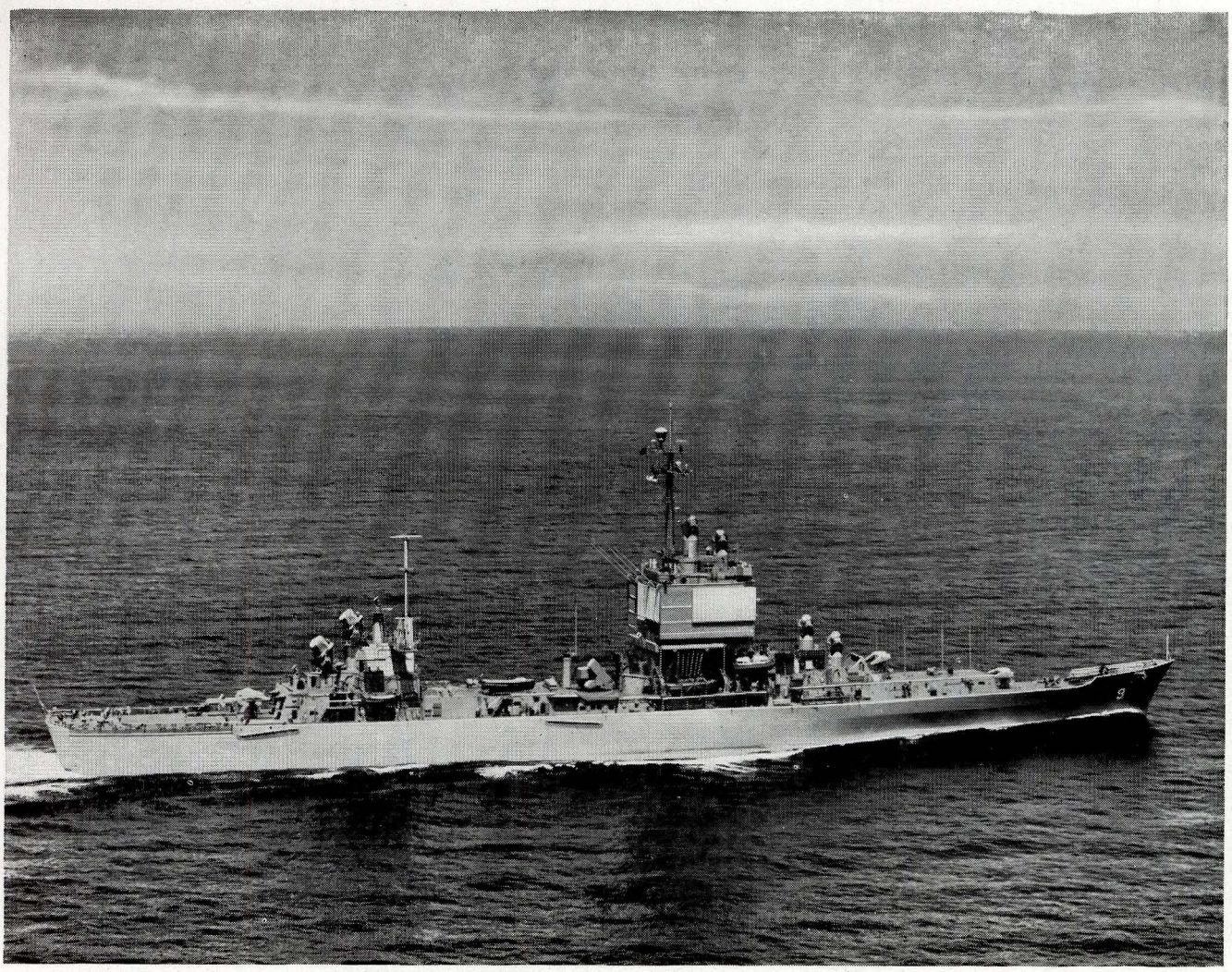
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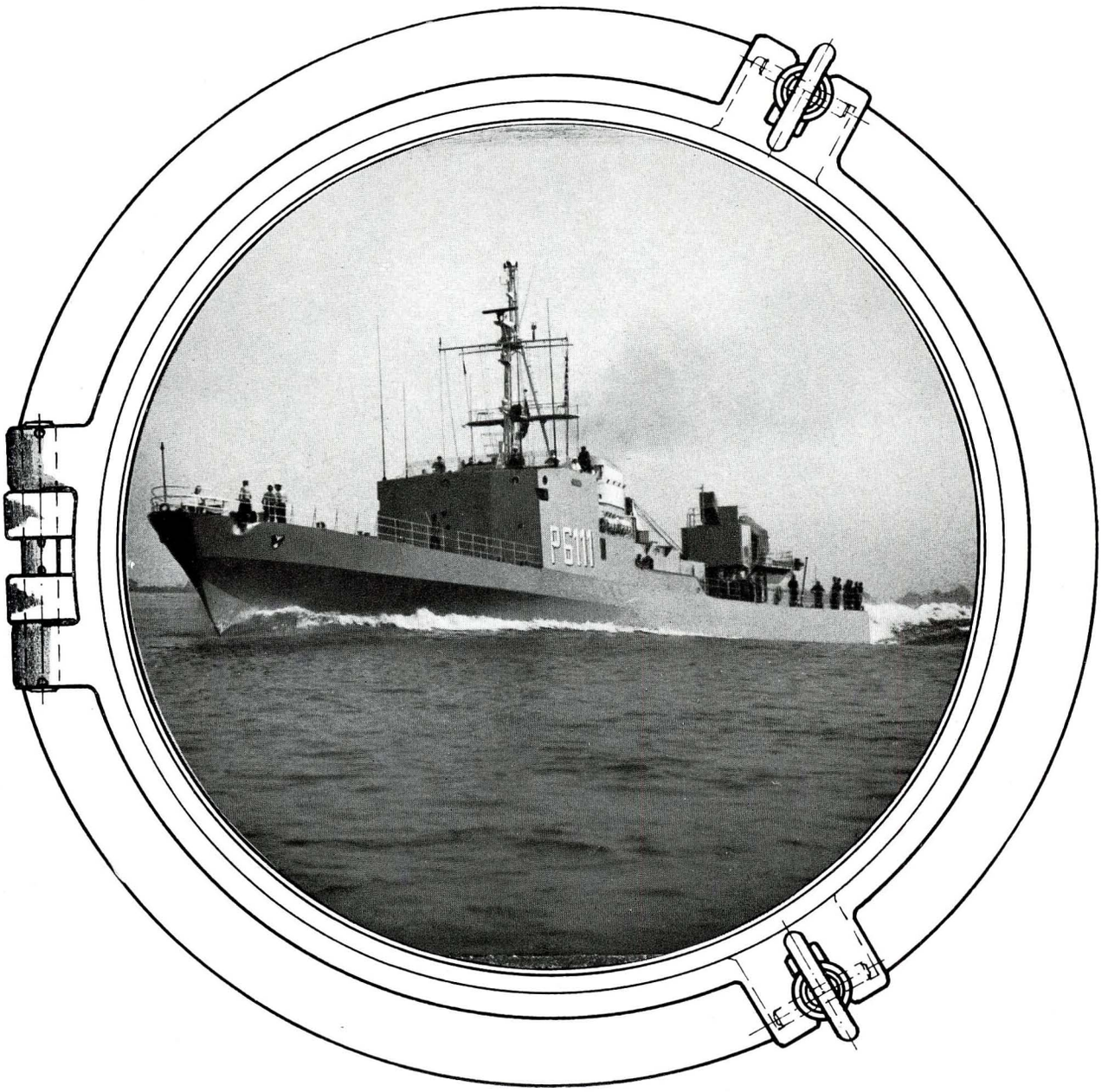
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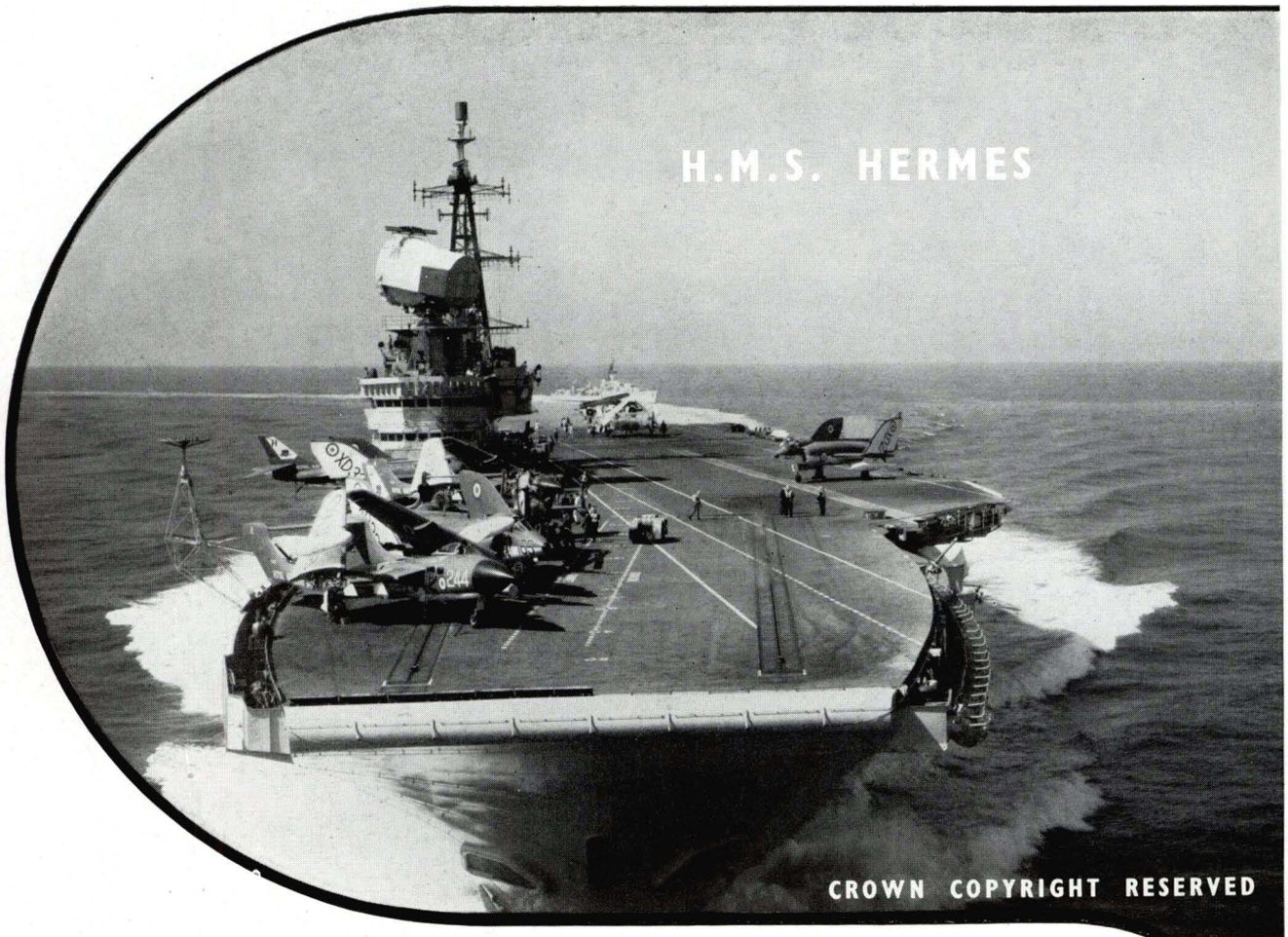
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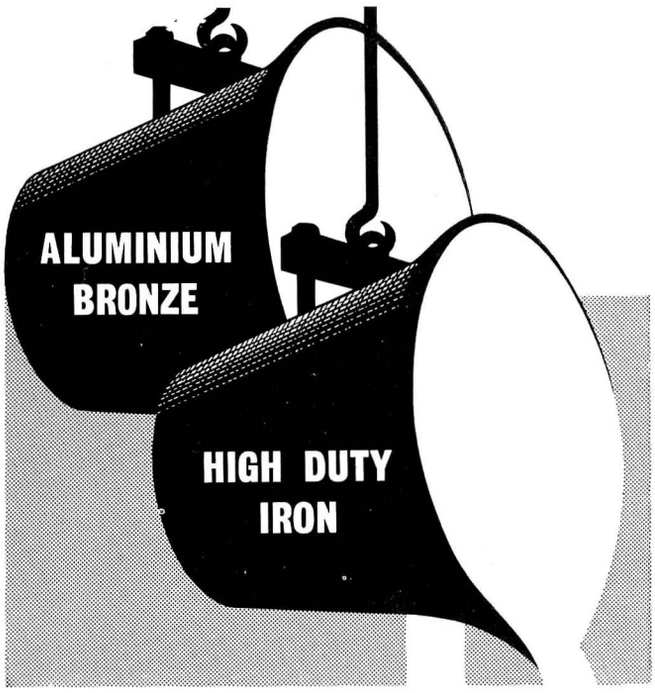
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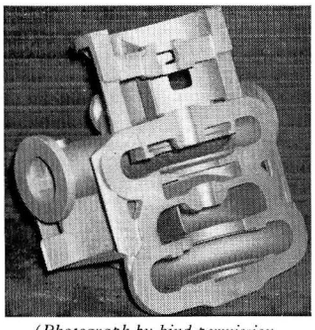
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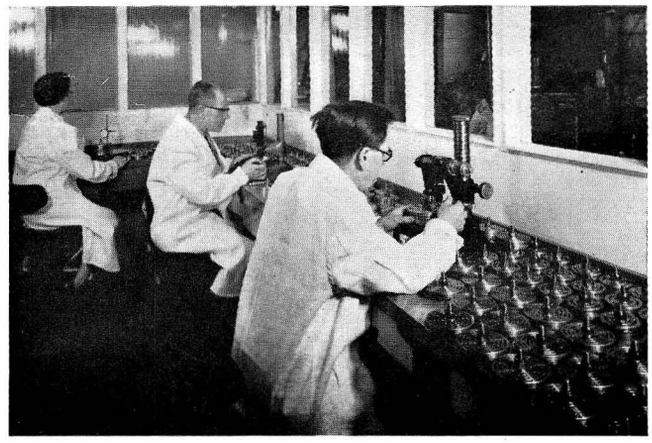
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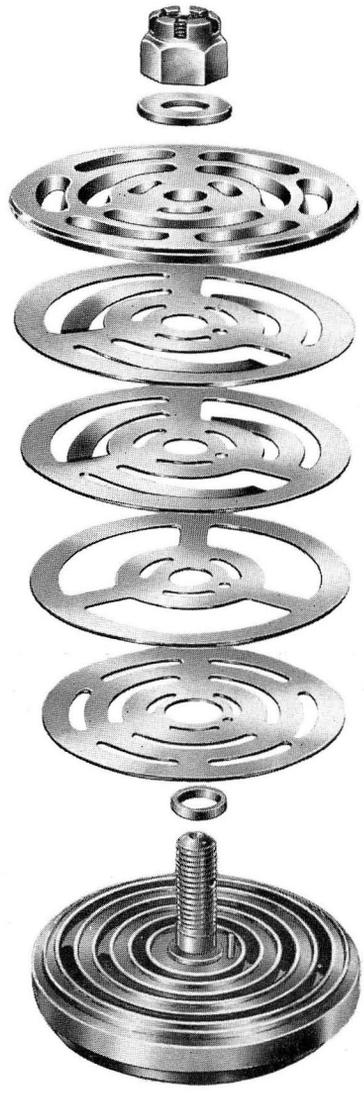
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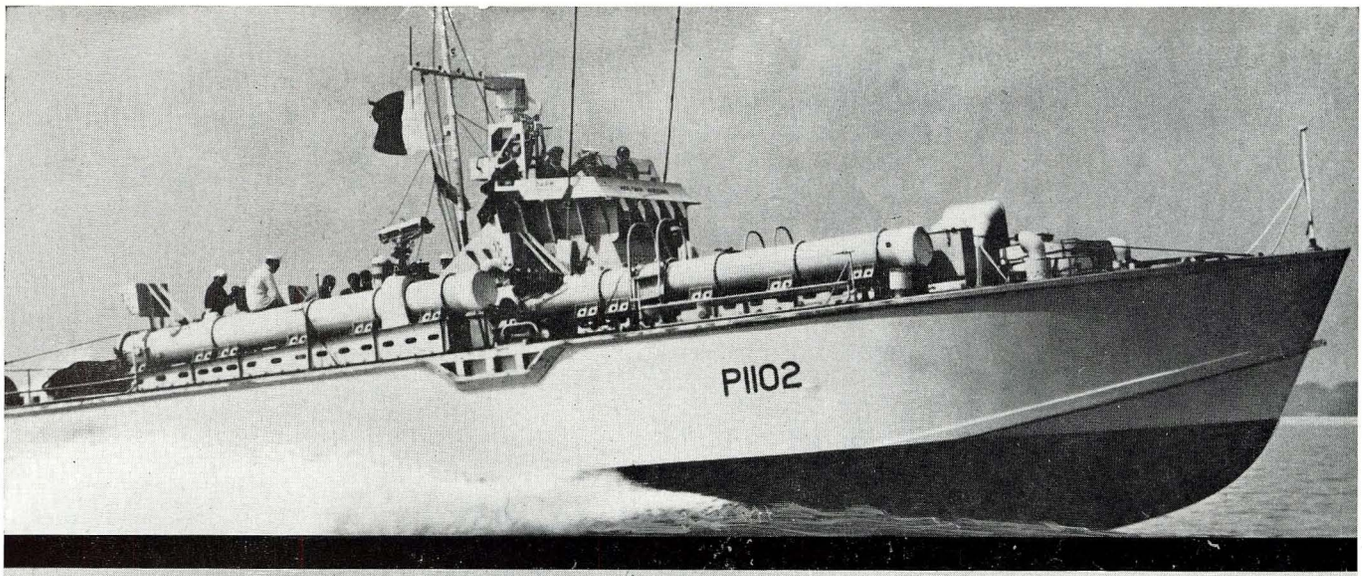
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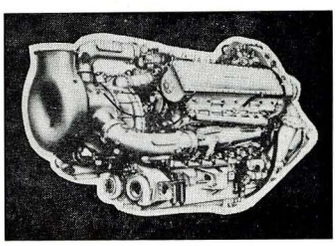




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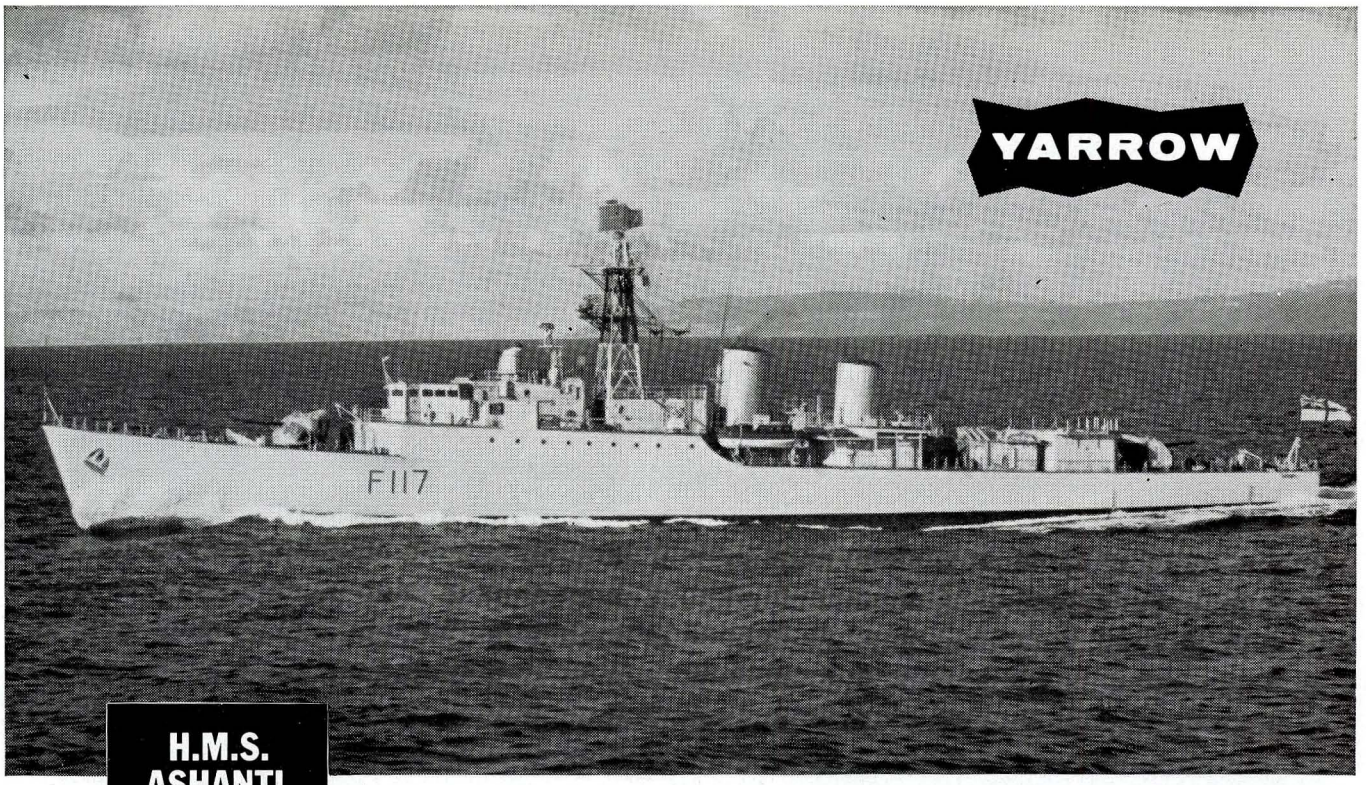
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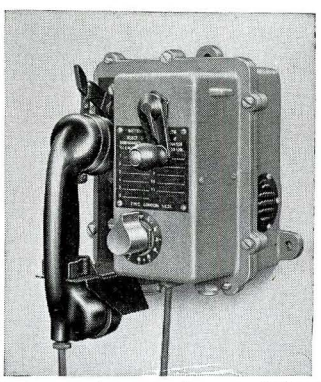
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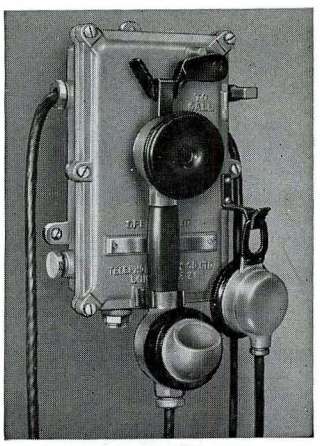
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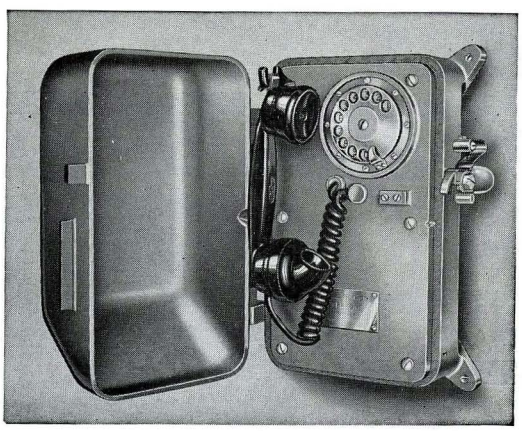
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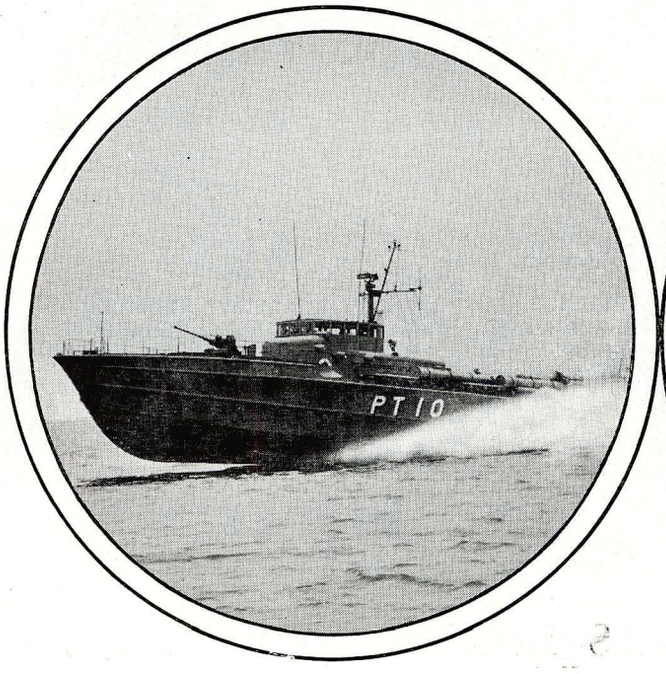


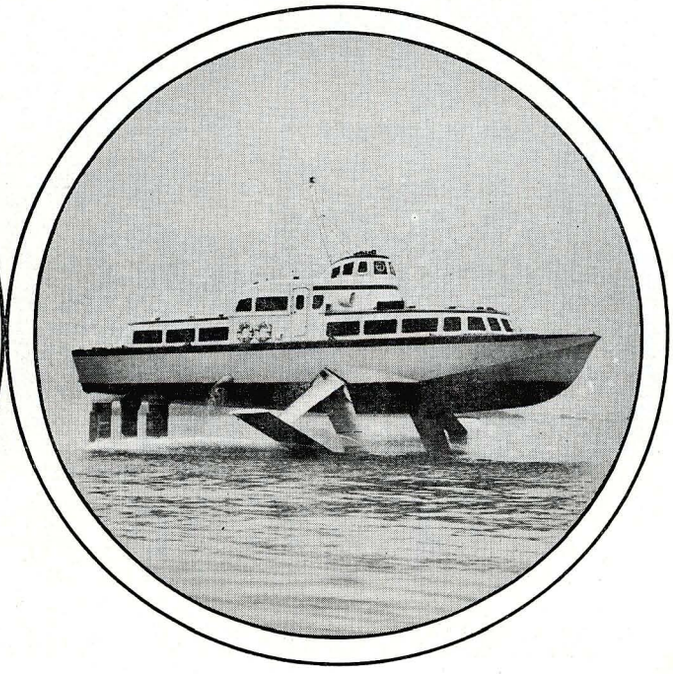
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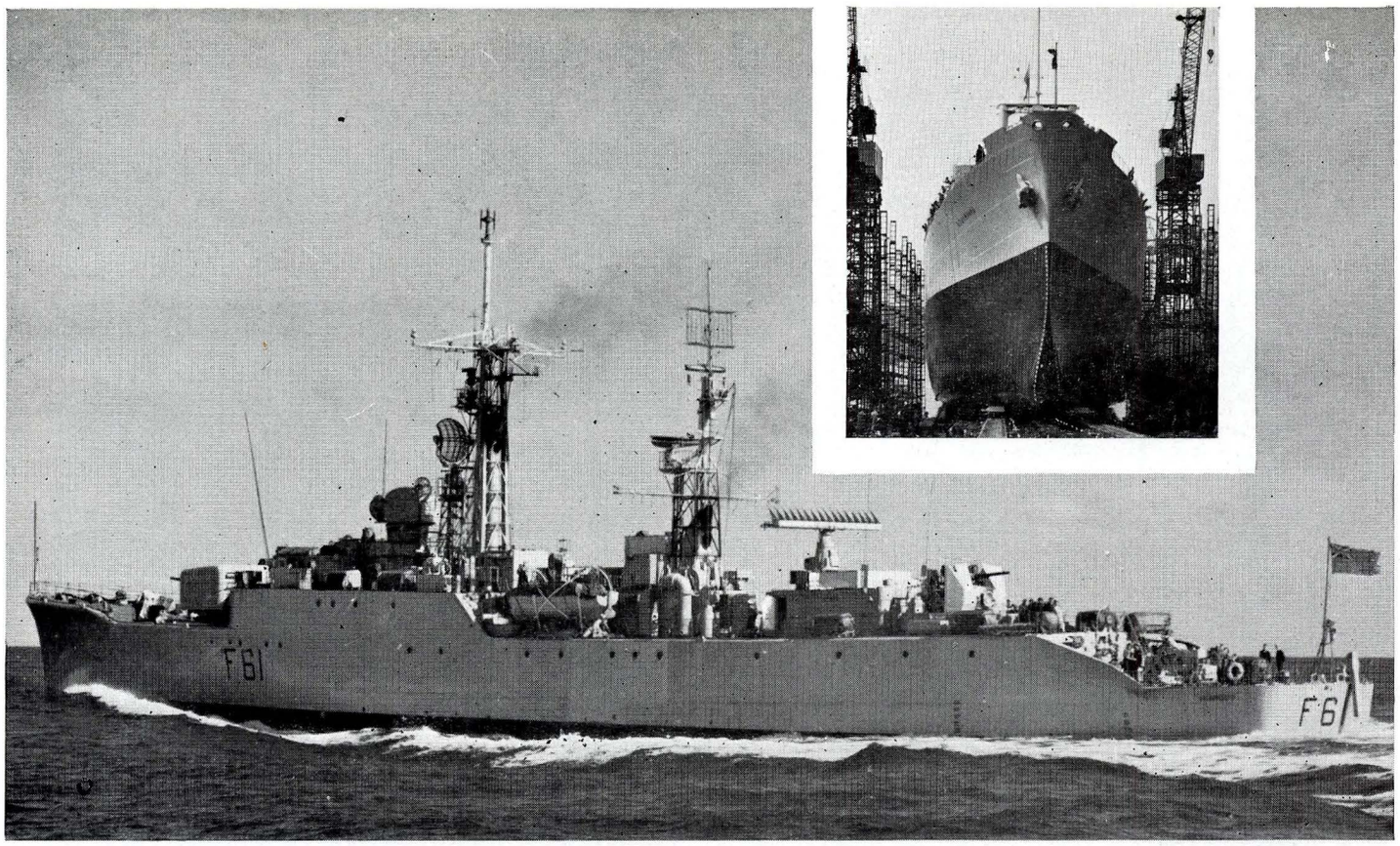
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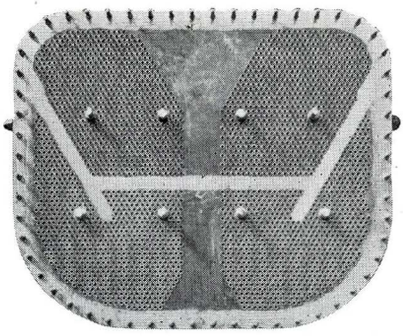
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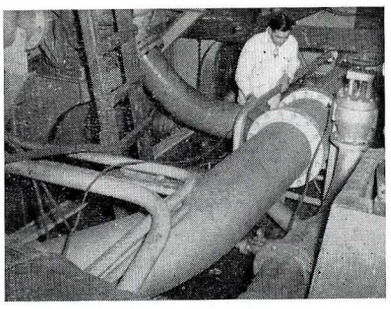
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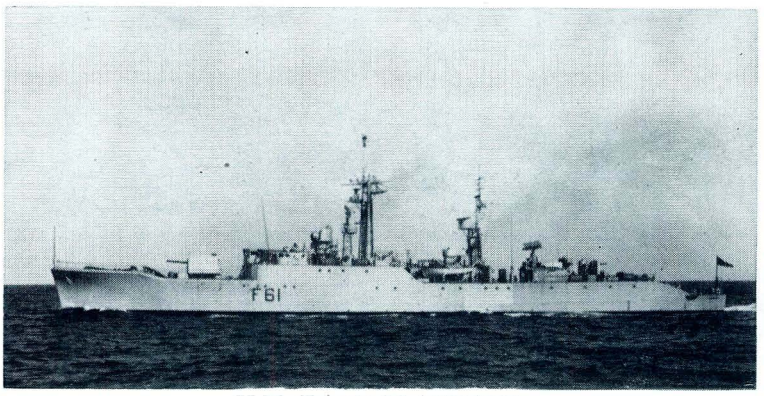
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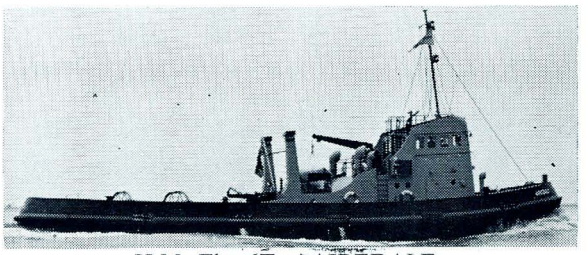
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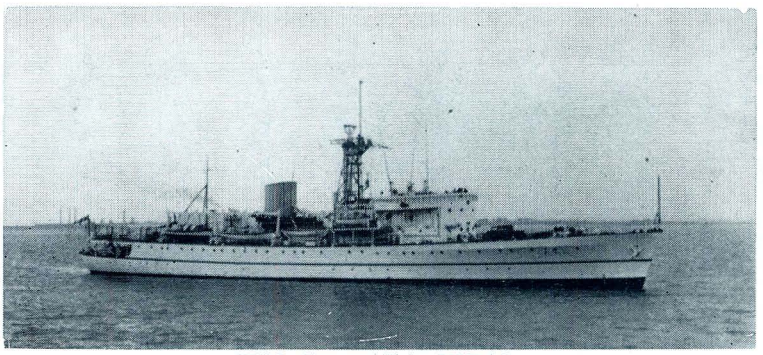
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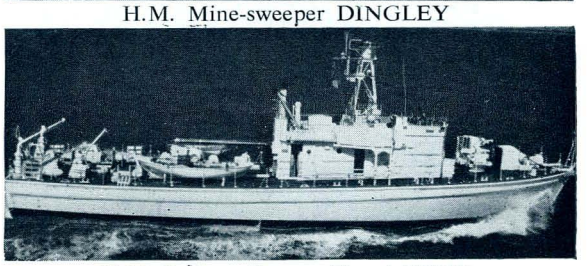
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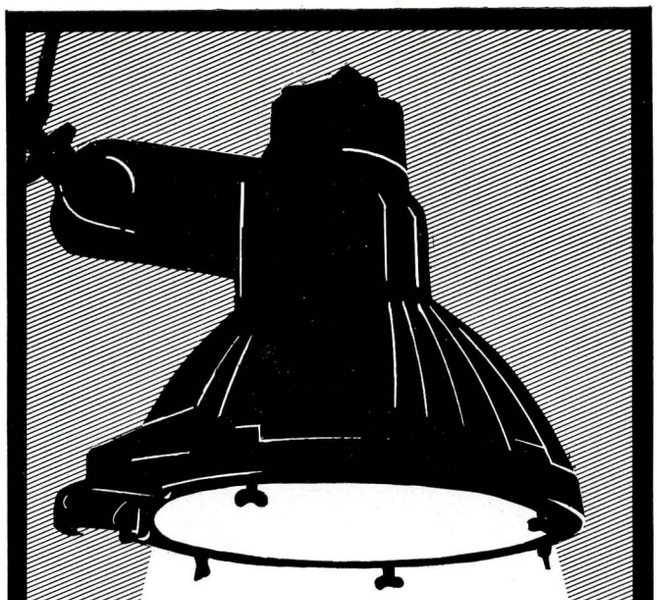


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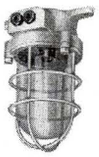
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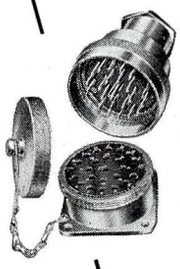
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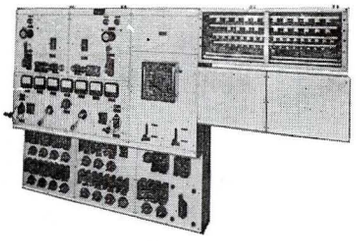


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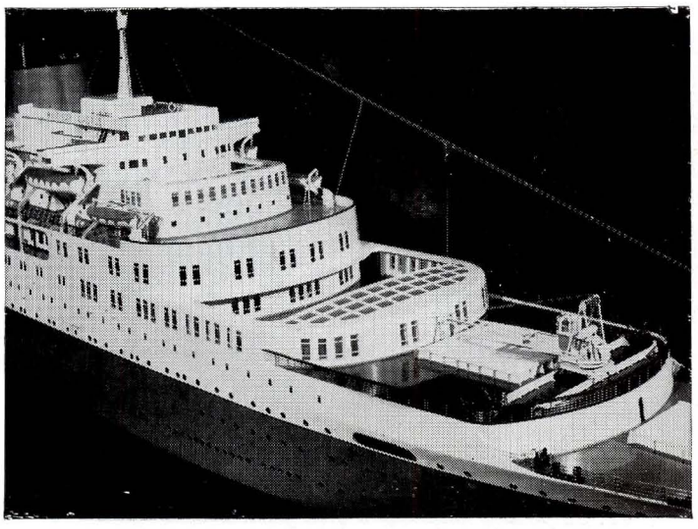
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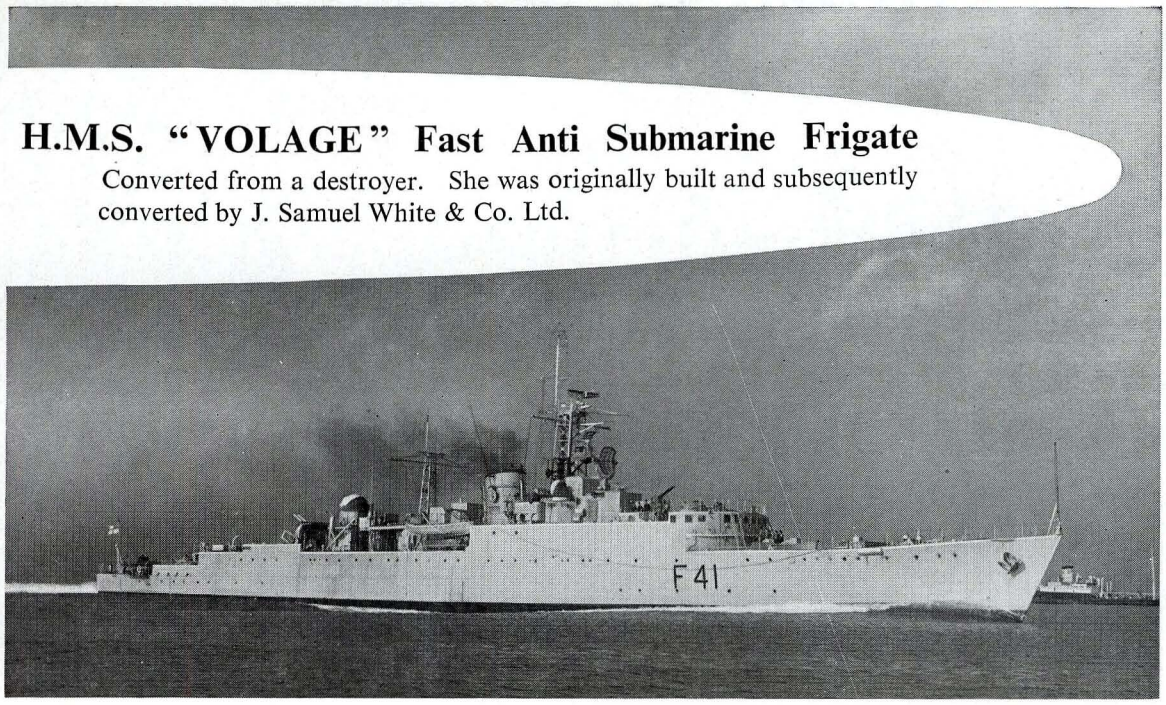
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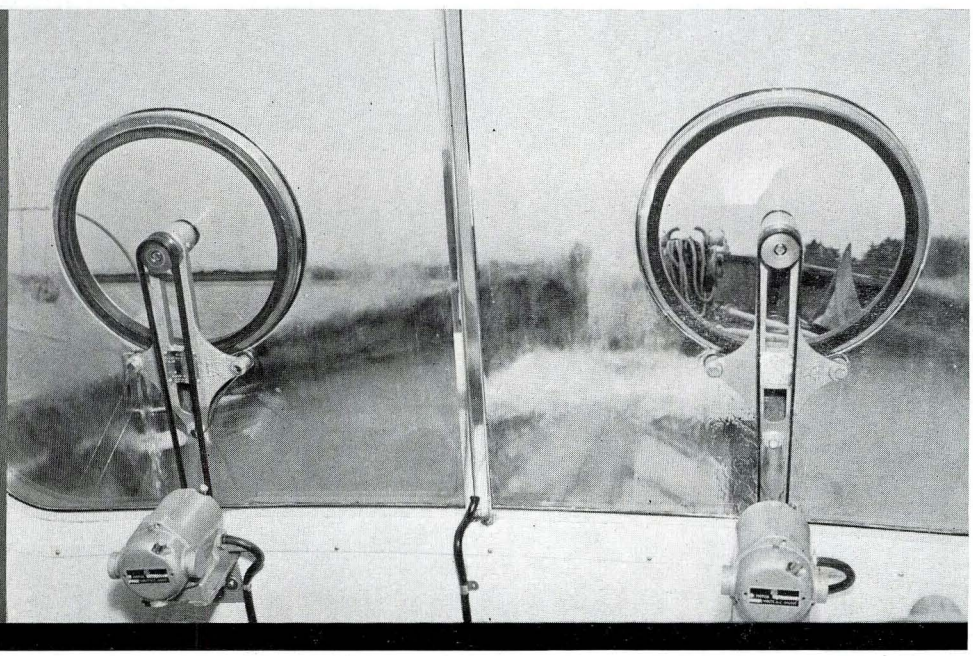
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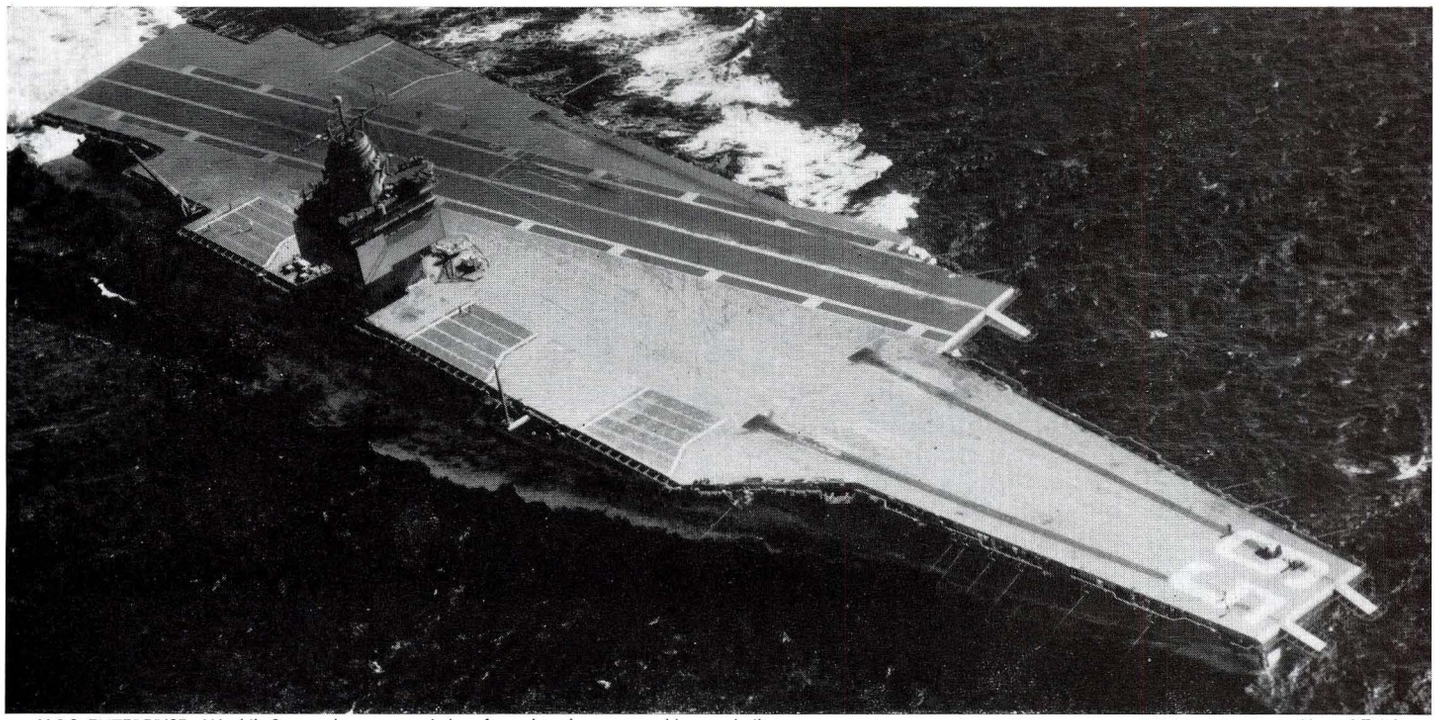
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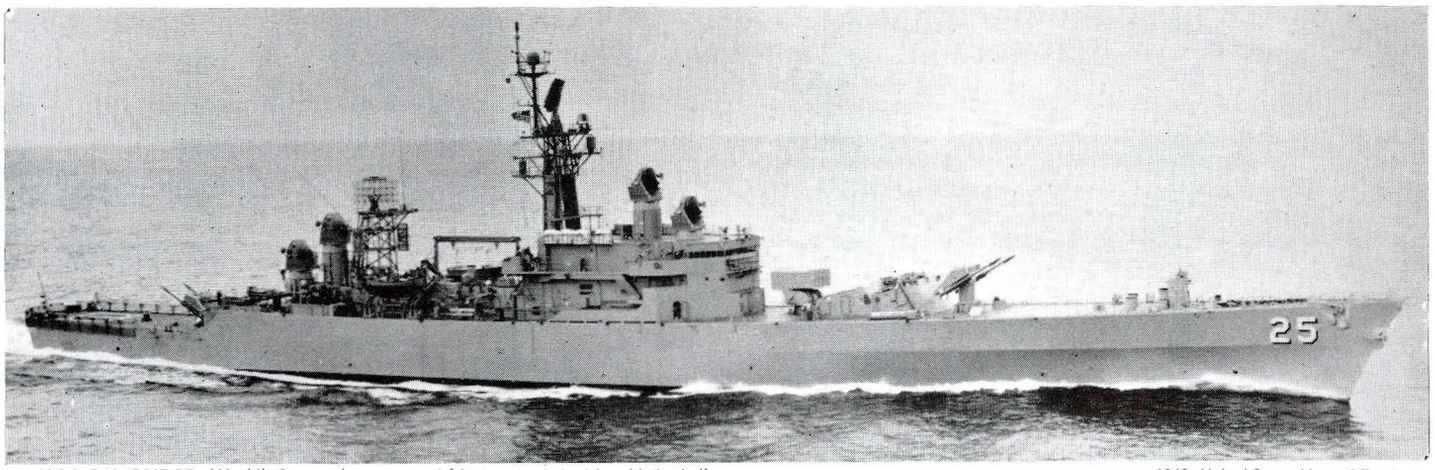
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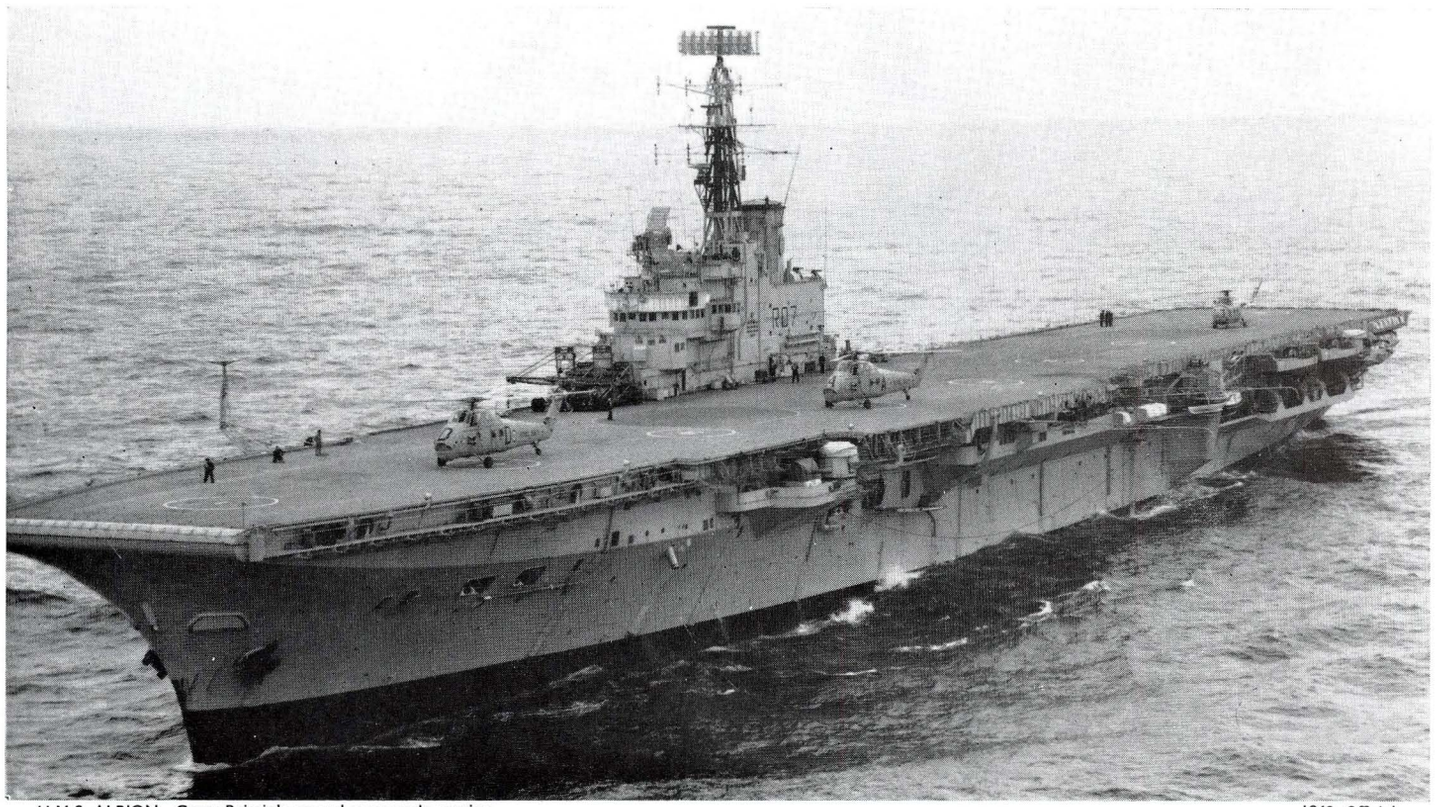
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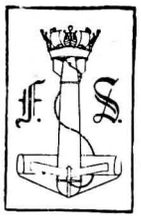
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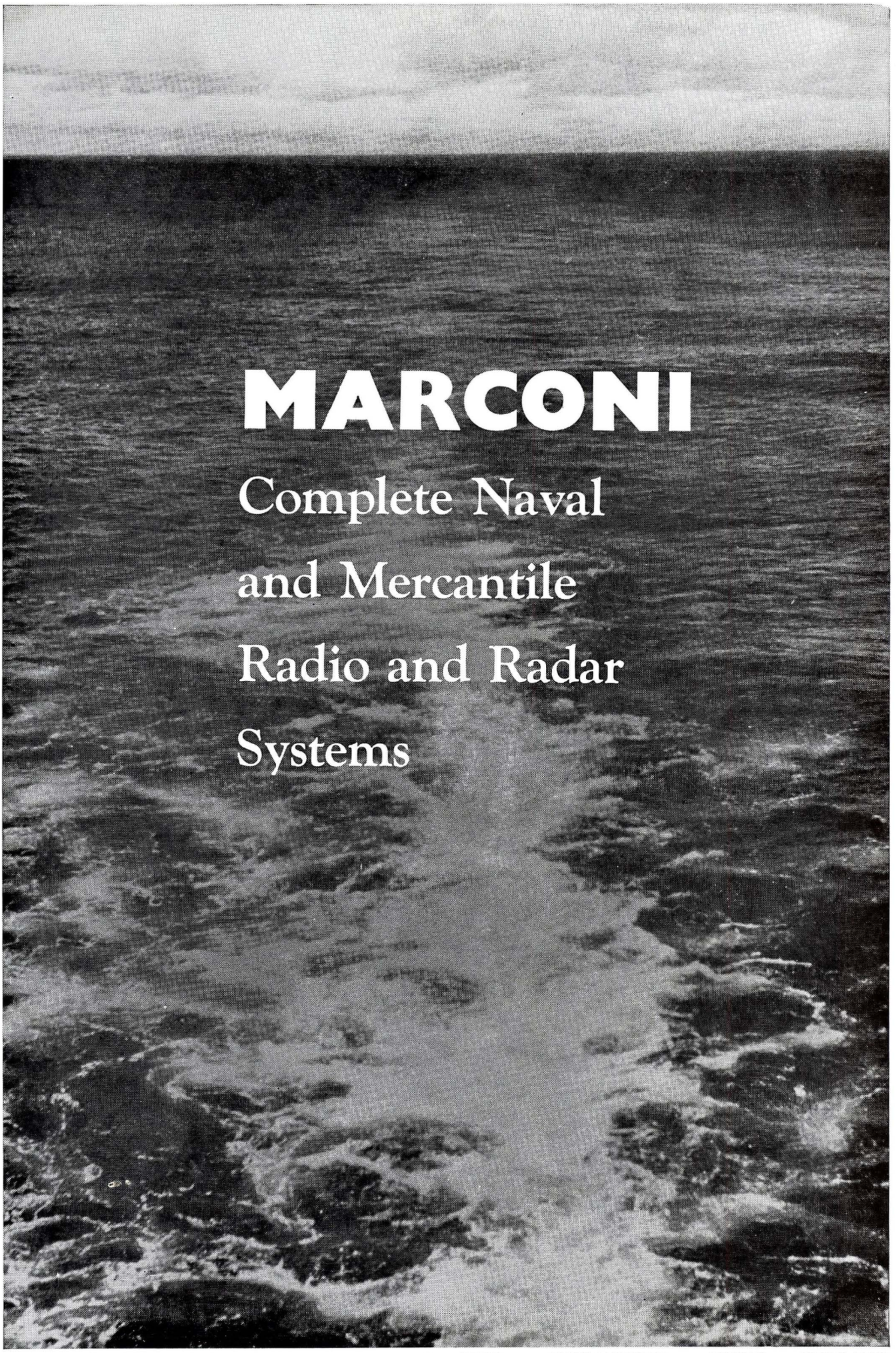
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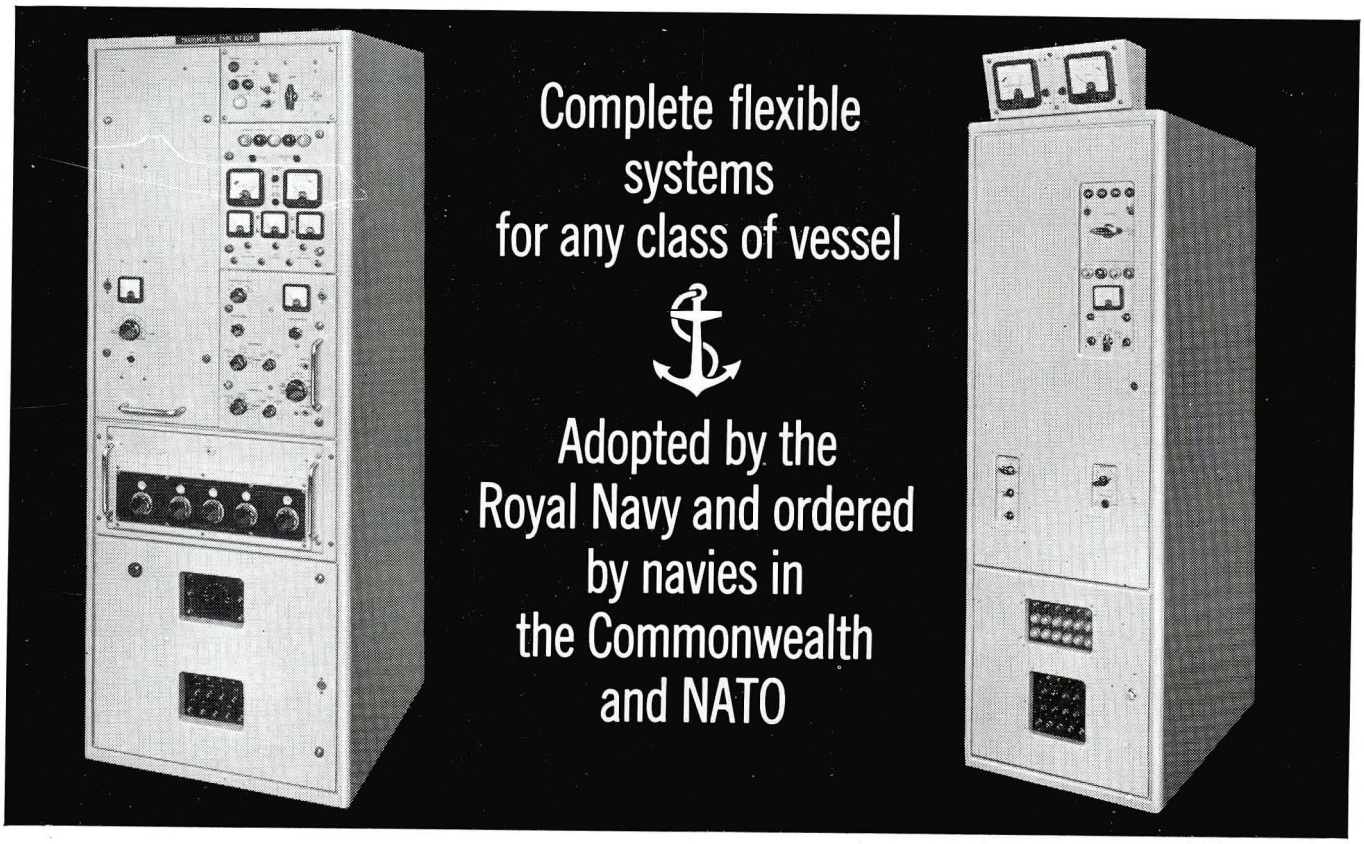
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FOREWORD

In this edition, the 65th year of issue of *Jane's Fighting Ships*, the volume of fresh material is well above the average, and due to the rapidly changing naval scene, not only as regards the major maritime powers but in the smaller countries emerging with sea defence forces, many alterations have had to be made to keep pace with the new types of warships coming from the builders' yards and the reconstruction, conversion or modification of existing warships. In the following pages very considerable textual and pictorial additions will be found.

The technical ship data, specialised notes, and reference tables have been extensively revised and in many cases considerably amplified in the light of new information, and some 470 new illustrations comprising 420 photographs and 50 drawings have been added, either of newly built warships and warships which have changed their appearance as the result of reconstruction, conversion or modification, or in replacement of earlier photographs, plan and elevations drawings, and silhouette sketches.

Altogether there are well over 2,000 illustrations in this issue, comprising about 1,570 photographs and 470 scale drawings, and particulars are given of over 10,000 warships in the navies of 93 countries. The strengths of the majority of these are summarised in a two page spread table at the end of the book showing at a glance the number of warships of each category in each navy.

General approbation has come from all parts of the world for the procedure adopted last year of arranging the book strictly in alphabetical order of countries to facilitate consecutive reference, and this sequence has been retained in this edition. Ships have also been listed in descending order of categories from capital ships down to auxiliaries, and the classes in order of modernity. Thus the book is presented in an alphabetical, categorical and chronological order which enables most ships to be found without reference to the index. This year the index of named ships has been moved to the end of the book, as it is considered that this is perhaps a more convenient position for readers of a standard book of reference.

During the past twelve months there has been an even flow of information and photographs to this annual, although not everybody realises the importance of sending in material early in the year so that fresh matter may be embodied in the first sections of the book to go to press. But with the goodwill and co-operation of the naval authorities of all but one or two of the maritime nations of the world, great and small, and with the assistance of correspondents east and west, this edition maintains the *Fighting Ships* tradition, established in 1897, of presenting a comprehensive panorama of the navies of the world, enabling professionals and students alike to evaluate the rapid technological advances resulting from the constantly changing scheme of naval requirements, and to make their annual appraisal of the strengths of the navies of the three big U's (United Kingdom, United States and Union of Soviet Socialist Republics) and of universal warship development.

The Frontispiece this year features photographs of the U.S.S. *Enterprise*, the world's first nuclear-powered aircraft carrier and the largest warship ever built; the U.S.S. *Bainbridge*, the world's first nuclear-powered frigate, also armed with guided missiles; and H.M.S. *Albion*, the second aircraft carrier to be converted into a commando ship for the Royal Navy.

United Kingdom

A certain shrinkage will be observed in the United Kingdom pages. This is chiefly due to all but a few of the remaining war-built ships having gone to the shipbreakers or having been placed on the disposal list.

Since 1945 the United Kingdom has scrapped 15 battleships and a battle cruiser, scrapped or sold 30 aircraft carriers (and returned 33 escort carriers to the U.S.A.), scrapped or sold 54 cruisers, 280 destroyers, 340 frigates and escorts (and returned 88 to the U.S.A.) and 110 submarines.

In the same period there has been comparatively little compensation in new construction. Since the end of the war the United Kingdom has laid down no battleships (none were expected or required), no aircraft carriers, no cruisers, and no orthodox destroyers of post-war design.

The record of new construction (completed to date) during these 17 years is two guided missile armed destroyers, 40 frigates, 14 submarines and 200 coastal and inshore minesweepers—all comparatively small craft.

At present the "capital ships" of the Royal Navy comprise five fixed-wing aircraft carriers, two commando ships, five cruisers. two guided missile armed destroyers (four more are under construction) and a nuclear powered submarine being completed (another is under construction). All the aircraft carriers and cruisers are war-built or pre-war hulls.

To set the record straight, however, this bald statement of credit and debit account should be read in conjunction with a fair modernisation programme over the same period.

Of the few surviving aircraft carriers *Hermes* was completed to an entirely recast design in 1953-59, *Victorious* was rebuilt in 1950-58, *Eagle* has been undergoing similar reconstruction since 1959 and *Ark Royal* and *Centaur* have undergone limited modernisation. *Albion and Bulwark* have been converted into commando ships.

Of the few remaining cruisers *Blake*, *Lion* and *Tiger* were rebuilt to a new design in 1955-61, *Belfast* was reconstructed in 1955-59 and *Sheffield* was also modernised.

Of the war-built destroyers eight were converted into radar pickets in 1958-62 and 34 were converted into anti-submarine frigates in 1949-57, but of the latter some are already scheduled for disposal and others will follow them to the shipbreakers in the near future.

Of the war-built submarines 13 of the "T" class have been converted or modernised and 15 of the "A" class have been or are being similarly modified and streamlined.

In addition much work has gone into what is termed "Afloat Support", including the conversion of *Maidstone* into a nuclear powered submarine parent ship and the modernisation of several maintenance ships.

And much of the Royal Navy's effort is going into scientific research and technical development of weapons and equipment.

But of actual new construction of warships there is comparatively little. Four guided missile armed destroyers, twelve general purpose frigates and eight submarines ordered under the Navy Estimates of previous years remain to be completed, but the 1962-63 Navy Estimates provide for the construction of only one assault ship and two replenishment tankers.

It is manifest that the United Kingdom does not now require, nor can it afford, the mighty fleet of former days when the Royal Navy was second to none and when it policed the world. The Royal Navy is now an integral part of NATO, and its mantle of world policeman is now worn by the United States Navy. In fact even in the closer sphere, where the Royal Navy has traditionally held sway for a century and a half, the United States Naval Forces, Europe encircle the continent and dominate the waters with two great fleets which have taken the place of the Home and Mediterranean Fleets always maintained by the Royal Navy until recent years.

But if the Royal Navy has been relieved of prestige and the balance of power in European Waters, and supplanted in its time honoured and hard-won rights from the Atlantic to the Near East, it still has responsibilities and commitments East of Suez and further afield. But the thin grey line of British warships around the world is now stretched to breaking point, as events in recent years have proved.

From being an adequate trade route police force for peacetime duties and constituting a reasonable potential for war, the Royal Navy appears now to be barely equal even to the task of the brushfire type of local warfare for which in recent years it has been redesigned.

Taking into consideration the warships which have been or will have been scrapped in two decades since the war and new warships which have been or will have been constructed in the same 1945-1965 period, the Royal Navy will have to be weighed in the balance and the question will have to be faced as to whether the United Kingdom is to remain one of the big three or whether she will sink to the status of a second class naval power with an insular fleet largely composed of frigates and minesweepers.

Ranking high on the list of policy decisions in the general consideration of the future of the Royal Navy must be the question of the renewal of capital ships in the shape of aircraft carriers or the building of more nuclear powered submarines, or continued dependence on the strength of the United States Navy in these categories.

The Royal Navy's five surviving fixed-wing aircraft carriers are all war-built or pre-war hulls, and would normally have to be replaced in the near future. But will the present concept of an aircraft carrier obtain in twenty years time?

The large aircraft carrier capable of operating in a strategic role as part of a strike fleet may be obsolete before any carrier laid down now could be completed. With vertical take off or short take off and landing (V/STOL) aircraft the very shape of present aircraft carriers could be obsolete in a few years. Traditionally the flight decks have completely overlaid the entire compass of a spear-shaped hull with a length to beam ratio of about eight to one. But hulls might be subject to hangar rather than flight deck requirements in future and ships could be shorter or wider with the shape of a tear-drop. The ships themselves might have to be of quite revolutionary design to stand the test of 20 years' progress in aircraft development.

There is a large school of naval thought which considers that not only will the large aircraft carrier become as obsolete as the battleship within a decade or so, due to recent and foreseeable future progress in aircraft design, in rocket techniques and in developments in submarine construction and navigation equipment, but that the true submarine (i.e. the nuclear powered vessel capable of remaining submerged indefinitely, as opposed to a conventionally powered boat which can only submerge periodically and should be called a submersible and not a submarine) will increasingly supplant the aircraft carrier, take over its functions, including the capacity of delivering the deterrent (which makes the aircraft carrier, itself vulnerable, dangerous to use in limited war) and eventually become the capital ship of the future. Indeed, the future of the Royal Navy might lie in the creation of a comprehensive undersea fleet. In any case submarines in future are likely to play a far bigger part in the world situation.

Looming largely in any prospect of replacement of overage and obsolescent warships is the soaring cost. The new frigate *Ashanti* is officially estimated to have cost £5,315,000 (twelve times as much as the previous *Ashanti*, a destroyer of comparable size). The new nuclear powered submarine *Dreadnought* may well cost £20,000,000. A new large aircraft carrier would probably cost £50,000,000 (possibly £100,000,000 in ten years time, all her equipment and aircraft included).

And even if the building of deterrent ships such as large aircraft carriers, guided missile ships and Polaris submarines, for fighting a nuclear war, is left to the United States, looming even more starkly is the question: How can the Royal Navy possibly afford the large number of escort vessels which would undoubtedly be required to wage even limited war, when a single frigate can cost as much as £5,315,000? Is a simpler and cheaper type of anti-submarine escort called for? Or could an entirely new high-speed hull-out-of-the-water type be developed? Both the hydrofoil ship and the air cushion vessel or hovercraft are progressing through their experimental stages, and both apparently are capable of eventual extension to ocean-going duties with speeds of 60 to 80 knots.

But one thing is fairly certain. The Royal Navy will either have to bebuilt up to keep the United Kingdom's place even as the third naval power in the world or be run down to an insignificant force, a mere cog in the NATO machine and a satellite on the fringe of the United States orbit.

Among the new photographs added in the United Kingdom section are those of the recently converted commando carrier *Albion*, the new guided missile armed destroyer *Devonshire*, the newly converted radar pickets *Agincourt*, *Aisne* and *Corunna*, the new construction assault landing ship *Fearless* (model), the new construction general purpose frigate *Leander* (model), the new gas turbine frigate *Ashanti*, the recently converted nuclear powered submarine support ship *Maidstone*, and the recently converted minesweeper maintenance ship *Mull of Kintyre*.

United States

The current slogans of the United States Navy, sponsored by the Chief of Naval Operations are, "The Trident of Neptune is the Sceptre of theWorld" and "The Navy is a Sound Investment for the Security of the United States and the FreeWorld".

The Chief of Naval Operations has stated that the constant tensions within the world community require the instruments of United States foreign policy to be dynamic, flexible, and ready in all respects to meet the continuing challenge to free world leadership; but freedom today is challenged by an insidious ideology and behind this challenge lies military power of great influence; to cope with this power the United States must also have power in order to be able to deal with it from a position of strength; the Navy is a prime contributor to the strength of the United States; in the accomplishments of the Navy's missions, mobility assumes far greater importance in the missile age in which the United States lives; it permits the United States to project its power where, when, and in the amount needed; this factor becomes even greater in magnitude in an era in which speed makes such inroads into the dimension of time; but if the United States is to carry out her traditional roles of controlling the seas and projecting her force across them, many of her ships which are rapidly aging must either be modernised or replaced.

This theme was also emphasized by the Secretary of the Navy, who said recently that the United States should start building new warships. He told an armed services sub-committee of Congress that the United States Navy needed more than 500 new ships by 1973. He said that in recent years major efforts had been made to lengthen the effective lives of the older ships. This continued to be highly successful and it was planned to utilize the programme so long as it paid dividends. However, as requirements were faced for better communications, complicated missile systems, improved sonars and new types of weapon it was found that the old ships simply could not do the job.

This implied dissatisfaction from the professional and political heads of the naval hierarchy is a sign of the heights and *par excellence* to which the United States Navy aspires. For the shipyards, both naval and private, have not been idle in recent years, and the United States Navy has a new construction record of which it can be proud and which must be the envy of all other nations.

The United States recently completed the world's first nuclear powered aircraft carrier, the world's first nuclear powered guided missile cruiser, and the world's first nuclear powered frigate. In recent years a fleet of 26 nuclear powered submarines has been completed. Of conventionally powered ships six giant aircraft carriers, two amphibious assault ships (commando carriers), eleven guided missile frigates, fourteen guided missile destroyers and 18 fleet destroyers have been completed in the last few years. Eleven cruisers have been converted into guided missile ships, and many specialised ships and small craft have been built.

A summary of the strength of the United States Navy pre-

sents the most imposing array of warships the world has ever known in peacetime. It includes 58 of the aircraft carrier type 43 of the cruiser type, 382 of the destroyer type, 339 of the destroyer escort type, 26 nuclear powered submarines, 150 conventionally powered submarines, 243 minecraft, 240 amphibious vessels, 420 fleet auxiliaries and 1,260 service craft.

But all except 9 of the aircraft carriers, all except one of the cruisers, all except 49 of the destroyers, all except 18 of the destroyer escorts, all except 44 of the submarines, and many of the minecraft, amphibious vessels, fleet auxiliaries and service craft were built during the war. Despite the huge FRAM (Fleet Rehabilitation and Modernisation) Programme undertaken in recent years, this will only extend the life of selected ships for from five to eight years, and this high proportion of war-built hulls explains the anxiety of the United States Navy Chiefs to embark on a programme of further new construction and add to the warships ordered over the last few years which are still in the building yards.

The 1963 Shipbuilding and Conversion Programme reflects the United States Navy's concern with the necessary balance between modernisation and new construction. It is a carefully calculated portion of the long range plans to maintain the ships and equipment required for the Navy to meet its ever changing commitments in the unsettled world of today and tomorrow.

The New Construction Programme comprises a conventionally powered attack aircraft carrier, a nuclear powered guided missile frigate, six nuclear powered fleet ballistic missile submarines, eight nuclear powered attack submarines, an amphibious assault ship, four amphibious dock transports, three guided missile escort ships, five escort ships, two motor gunboats, a fleet ballistic missile submarine parent ship, a fast combat support ship, two oceanographic research ships, a surveying ship, and a roll-on/roll-off supply ship.

The New Conversion Programme comprises a command ship (former aircraft carrier), 24 destroyers, a mine countermeasures support ship, a major communications relay ship, a fleet ballistic missile resupply ship, a prototype guided missiles experimental ship, a fast ammunition ship, two technical research ships and two fast fleet jumbo oilers.

This 1963 Shipbuilding and Conversion Programme is broadly similar to the programmes of successive years undertaken from 1957 and 1962 and should in conjunction with those go far to redress the balance between old and new or modernised ships.

By 1967 it is planned that there will be a fleet of 81 nuclear powered submarines. The United States Navy proposes to raise its nuclear ballistic missile submarine fleet to about 41 units (this figure was revised in 1962), all Polaris armed.

It is intended that by 1970 there will be 150 ships with nuclear powered machinery plants, and 200 ships armed with surface-to-air guided missiles. All combatant ships will be armed with anti-submarine missiles or equipped with anti-submarine aircraft.

Among the photographs added in the United States sections are those of the new nuclear powered attack carrier *Enterprise*, the new conventionally powered attack aircraft carrier *Constellation*, the new amphibious assault ship *Iwo Jima*, the new nuclear powered guided missile cruiser *Long Beach*, the new nuclear-powered guided missile frigate *Bainbridge*, the new guided missile frigate *Leahy*, the new nuclear-powered fleet ballistic missile submarines *Ethan Allen*, *Sam Houston* and *Thomas A. Edison*, the new nuclear powered attack submarine *Thresher*, and the new nuclear powered fleet ballistic missile submarine support ship *Hunley*.

U.S.S.R.

Although the number of cruisers is gradually being reduced some are being fitted with guided missiles. New classes of guided missile armed destroyers are being built, and existing destroyers are being adapted for the launching of guided missiles. A considerable number of small boats are also being equipped with guided missiles.

The total number of submarines is believed to have risen to 465 units of all types compared with about 430 a year ago, but this is hardly surprising when it is recalled that in the peak year of post war submarine construction over 80 conventional submarines were built. It should also be remembered that last year showed a reduction in maximum numbers following the disposal of some obsolete submarines, which could not be compensated immediately by new and larger submarines, some nuclear powered and armed with guided missiles, which are infinitely more complex and require a much longer period of time to build than conventional submarines. On the other hand the Soviet submarine fleet has been authoritatively estimated to be as low as 350 to 400 effective seagoing units.

It is understood that there are three new types of nuclear powered submarines, two being armed with guided missiles and one designed as attack or hunter-killer submarines. There are reported to be 30 missile-launching submarines, ten of which are nuclear powered. The missiles are said to be limited in numbers and in range. The range is estimated to be about 350 miles, but this will probably not obtain for long as constant and progressive improvements are being made, and it is reported that the trials of a submarine fitted with missiles of the Polaris type will begin very shortly, possibly by the end of this year.

Information which had reached this annual by the time o-going to press indicates that more than twelve nuclear subf marines are operating and on station, and that five or six are expected to be completed every year. Some are equipped with short range ballistic missiles and others are of the anti-submarine type. The Soviet boast is that nuclear rocket submarines are the main striking force of the Soviet Fleet. It is reported that the *Lenin*, the world's first nuclear-powered surface ship to put to sea, is not merely an icebreaker, but is actually a parent ship for the nuclear-powered submarine flotilla.

Soviet research, Soviet technology, Soviet prefabrication, and Soviet shipyards now seem to be fully geared, and it would be unwise to underestimate Soviet warship production capabilities. Naval bases, warships, submarine pens, and shore stations are probably at their highest efficiency since the war.

One particular spur in the U.S.S.R. seems to be a determination to build up the Navy commensurate with the rapidly expanding merchant fleet which is said to have been practically doubled since the end of the war and which has particularly grown since 1955. Since then Soviet naval chiefs have become increasingly aware of the need for protecting mercantile shipping in wartime. This, added to grave concern over the threat presented by the increasing number of United States Polaris submarines, is probably the reason for recent activity in Soviet shipyards which are reported to be turning out large numbers of ships of the frigate, escort, patrol and submarine chaser types. Many are equipped with multiple depth-bomb mortars and ahead-firing unit-submarine weapons similar to those in the Royal Navy and the United States Navy.

One of the puzzling features of Soviet naval policy is the reluctance to cut out the dead wood. Seldom does a report of the actual breaking-up of an old or obsolete warship reach this annual. It might be thought that, with most of the ships in the Soviet Navy of recent construction, all vessels over say 20 years old would be scrapped, but many such vessels are still extant. Most ships not being refitted are fully manned and of operational status.

A more understandable feature is that of deploying a huge network of trawlers in most of the oceans of the world. These have been variously designated as observation ships, direction-finding vessels, intelligence trawlers and electronic detectives, but there is no doubt they carry more radio and radar gear than mere fishing boats and can pass information back to the U.S.S.R. about warships and naval exercises of other nations.

Among the photographs added in the U.S.S.R. sections are those of the guided missile armed destroyers of the "Krupnyi" and "Kildin" classes and the guided missile submarines of the "G" class.

France

The Republic is one of the countries which believes in a routine striking down of the older vessels with replacement by new ships. Two new aircraft carriers have been built, a cruiser helicopter carrier is being completed, and three guided missile frigates are under construction. All the destroyers and most of the frigates, submarines, minesweepers and patrol vessels are of recent construction.

Italy

A guided missile cruiser is being laid down, two guided missile escort cruisers are under construction, and two guided missile armed destroyers have reached the launching stage. Four large turbine propelled frigates, four smaller diesel powered frigates, four corvettes, and four hunter-killer submarines are being built.

Japan

Under the second five-year defence programme Japan is to build four guided missile armed destroyers, seven destroyers, five submarines, a minelayer and several other ships. Under the aegis of the United States a substantial navy of destroyers, frigates, submarines, patrol vessels and mineweepers has already been built, although it is still known as the Maritime Self-Defence Force.

Germany

Eight large guided missile destroyers are projected, two destroyers and six frigates have been built, and twelve submarines, 14 support ships akin to frigates, six anti-submarine corvettes, and many minesweepers, motor torpedo boats, patrol boats and auxiliaries have been completed or are in various stages of construction, the whole constituting a substantial force signalling Germany's resumption as a naval power.

Ghana

This very young navy is only mentioned here as the source of order of two corvettes or anti-submarine patrol vessels of a very interesting design (photogrpah of the model in this edition) being built as a joint venture by Vosper Ltd., Portsmouth, and Vickers-Armstrongs, one by each company. Of an entirely new type designed by Vosper, they are an example of what can be achieved on a comparatively small platform to produce an inexpensive and quickly built submarine chaser. They could be the pattern for a new type which, like the torpedo boat destroyers of former days, of which they are broadly reminiscent, might grow into bigger ships but cheaper than present frigates, and there may well be need for similar vessels in the Royal Navy and other navies, as a large number could be built for a comparatively small outlay.

For its revision this year *Fighting Ships* is much indebted to the several Naval Boards, Navy Departments and Ministries of Marine and Defence who furnished information and photographs. In most instances this was facilitated by the kindness of the Ambassadors and Naval Attachés in London. The following may be particularly mentioned: Rear Admiral J. L. Witrand, French Navy; Rear-Admiral Noel A. M. Gayler, United States Navy; Brigadier H. J. Martin, C.B.E., D.F.C., South African Navy; Captain Raul Francos, Argentine Navy; Captain Alexandrino R. de Alencar, Brazilian Navy; Captain V. J. Wilson, Chilean Navy; Captain M. H. Salminen, Finnish Navy; Captain R. Rueggeberg, Federal German Navy; Captain E. G. Panas, Royal Hellenic Navy; Captain R. Sardjoeno, Indonesian Navy; Captain E. Manca di Villahermosa, Italian Navy; Captain R. M. Crommelin, Royal Netherlands Navy; Captain E. J. Bruen, Royal Norwegian Navy; Captain Sr. Don Manuel Aldereguia Amor, Spanish Navy; Captain Bengt A. G. Hedlund, Royal Swedish Navy; Captain Adul Tulyanon, Royal Thai Navy; Captain Necati Pinar, Turkish Navy; Captain Arnamdo de Pedraza Periera, Venezuelan Navy; Captain Ljubisa M. Mikajlovic, Yugoslavian Navy; Colonel Y. van Strydonck de Burkel, Naval Attaché, Belgian Embassy; Colonel D. Hiram, Naval Attaché, Israeli Embassy; Colonel Mitio Utsunomiya, Defence Attaché, Japanese Embassy; Commander J. E. S. Pinto Pereira, Portuguese Navy and Lt. Colonel Jens Borge Danielsen, Naval Attaché, Danish Embassy.

Grateful acknowledgment is made of the kind co-operation of Captain A. H. Wallis, C.B.E., R.N. (Retd.), Chief of Naval Information, London and of Commander N. P. E. Whitestone, R.N., (Retd.) of his staff.

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Private correspondents who have assisted this year include; Dr. Ing. Luigi Accorsi; Rear-Admiral M. J. Adam, C.V.O., C.B.E.; Professor Alfredo Aguilera; Sig. Giorgio Arra; Mr. Ian L. Buxton; Mr. William H. Davis; Mr. B. L. Devenish-Meares; Captain Aldo Fraccaroli; Dr. Giorgio Giorgerini; Mr. Hajime Fukaya; Constructor Lt.-Commander Shizuo Fukui, I.J.N.; Mr. A. W. Grazebrook; Lt.-Commander Alvin H. Grobmeier; Dr. Erich Groner; Mr. Martin E. Holbrook; Ing. Augusto Nani; Dr. Ian S. Pearsall; Herr Werner Schiefer; Engineer Captain Aluino Martins da Silva; Captain R. Steen Steensen, R.D.N.; Mr. Ted Stone; Herr Stefan Terzibaschitsch; Mr. Godfrey H. Walker; and many others who prefer to remain anonymous.

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Those who have photographs or information for the next edition, the preparation of which starts immediately, are invited to write as early in the year as possible, preferably not later than March, to The Editor, "Fighting Ships" care of Messrs. Sampson Low, Marston & Co. Ltd., Potter Row, Great Missenden, Bucks, England.

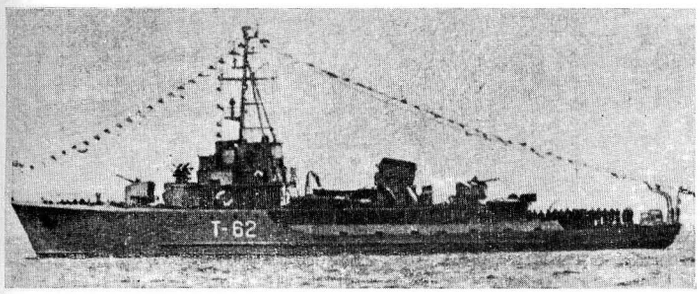
R.V.B.B.

ALBANIA

Personnel:
1961: 1,660 officers and men. 1962: 1,920 officers and men.

Ships:
The Soviet submarines and frigates based in Albania were withdrawn in 1961.

FLEET MINESWEEPERS



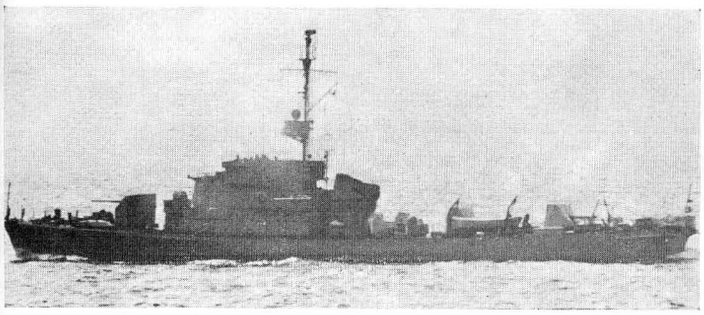
"T 43" Class Ex-U.S.S.R.

2 "T 43" Class

Displacement:	410 tons *standard* (530 tons *full load*)
Dimensions:	200 × 27¼ × 9 feet
Guns:	4—37 mm. AA., 8—13 mm. M.G. AA.
Machinery:	Diesel motors. 2 shafts. Speed = 18 kts.

Notes
Two "T 43" class minesweepers were acquired from the U.S.S.R. in 1960, it is reported.

PATROL VESSELS



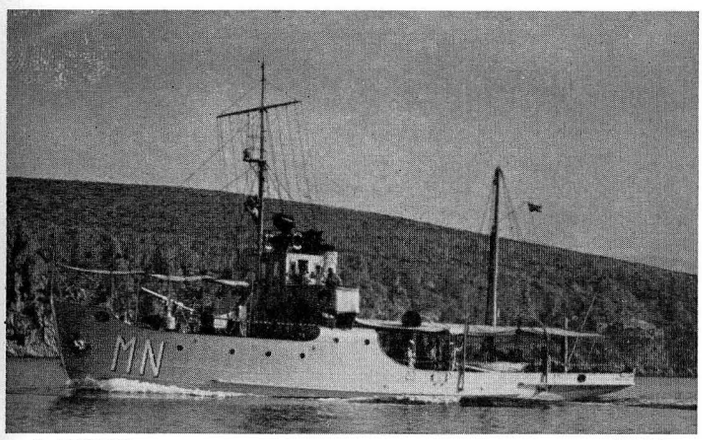
"KRONSTADT" Class Ex-U.S.S.R.

8 Ex-U.S.S,R "Kronstadt" Class

Displacement:	300 tons
Dimensions:	167½ × 19½ × 9 feet
Guns:	1—3·9 inch, 2—37 mm. AA., 3—20 mm. AA.
A/S weapons:	Depth bomb projectors
Mines:	Fitted for laying
Machinery:	Diesels. 2 shafts = 27 kts.
Oil fuel:	20 tons
Complement:	40

Notes
Russian built "Kronstadt" class submarine chasers, transferred to Albania in 1958-60. The numbers of four patrol vessels are reported to be 191, 192, 502, 504.

COASTAL MINELAYERS



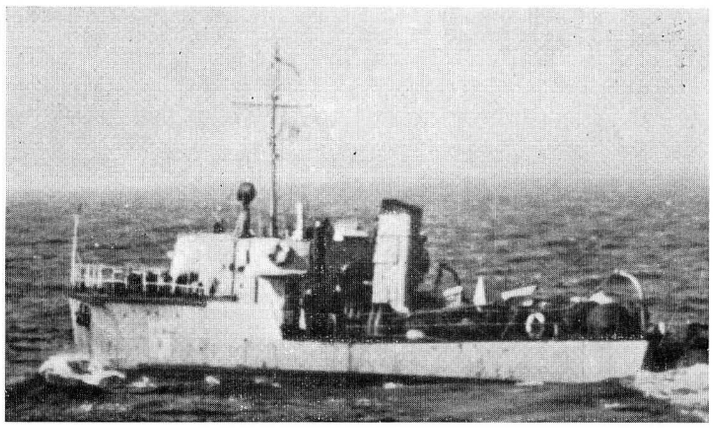
Ex-MARJAN *Official*

Ex-**PASMAN** (ex-*Mosor*) Ex-**UGLIANO** (ex-*Marjan*)

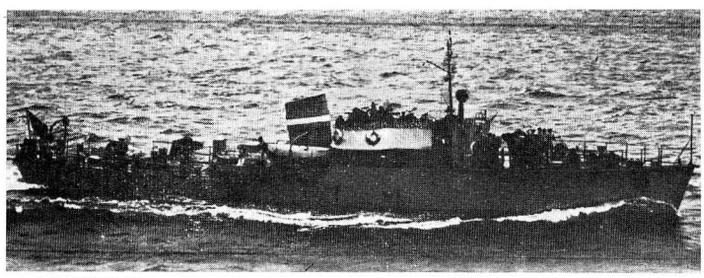
Displacement:	125 tons *standard* (130 tons *full load*)
Dimensions:	98½ × 26½ × 5½ feet
Guns:	1—47 mm.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 280 = 9 kts.
Complement:	30

Notes
Former Yugoslavian mining tenders and inshore minesweepers launched in 1931 at Yarrow's Adriatic Yard, Kralyevica. Later used as small minelayers, but their continued existence in this role is now doubtful.

INSHORE MINESWEEPERS



"T 301" Class Ex-U.S.S.R.



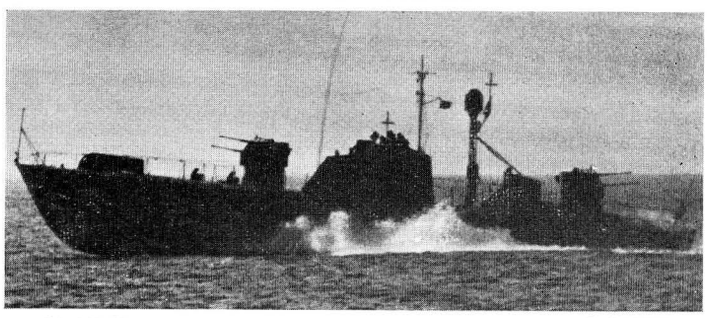
"T 301" Class Ex-U.S.S.R.

4 Ex-U.S.S.R. "T 301" Class

Displacement:	130 tons
Dimensions:	100 × 16 × 4½ feet
Guns:	2—20 mm AA., 4 M.G.
Machinery:	Diesel. B.H.P,: 480 = 10 kts.
Complement:	30

Notes
Two Russian built "T 301" class inshore minesweepers were transferred to Albania in 1957, and two more are reported to have been transferred in 1961.

MOTOR TORPEDO BOATS



"P-A" Class Ex-U.S.S.R.

5 Ex-U.S.S.R. "P-A" Class

Displacement:	40 tons
Guns:	2—25 mm. AA. M.G.
Tubes:	2—21 inch
Machinery:	Speed = 35 kts.

Notes
Russian built "P-A" class fast patrol boats acquired in 1955. It is reported that there are 14 motor torpedo boats in the Albanian Navy comprising five Soviet P-A class, and Soviet 70 ft. Vosper class.

MINESWEEPING BOATS

3 Ex-U.S.S.R. "KM 4/5" Class

Displacement:	20 tons
Guns:	2—13 mm. AA. M.G.
Machinery:	Speed = 32 kts.

Notes
In addition to the above there are reported to be 16 small patrol craft for coastal duties.

ARGENTINA

Administration

Secretary of Marine:
Contraalmirante Gaston Clement.

Chief of Naval Operations:
Almirante Alberto P. Vago.

Commander-in-Chief, Sea-going Fleet:
Vicealmirante Augustin R. Penas.

Chief of Naval Commission in Europe and Naval Attaché in London:
Captain Raul Francos.

Personnel

1962: 1,500 officers, 20,000 ratings (including 5,000 conscripts).

Ships

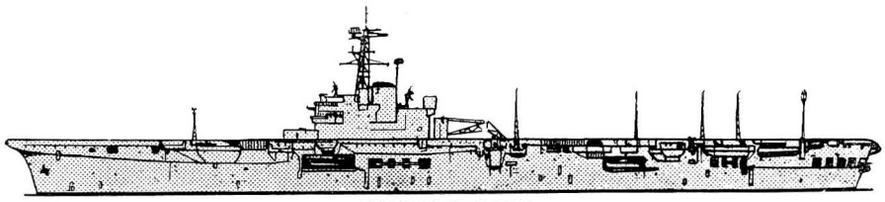
The names of all warships are prefaced by "A.R.A." (Armada Republica Argentina).

Mercantile Marine

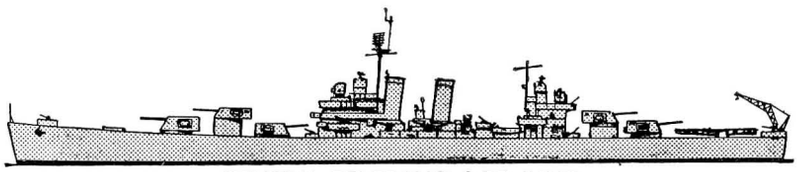
Lloyd's Register of Shipping:
374 vessels of 1,195,409 tons *gross*

Silhouettes

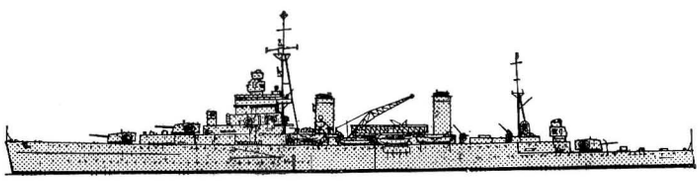
Scale: 150 feet = 1 inch



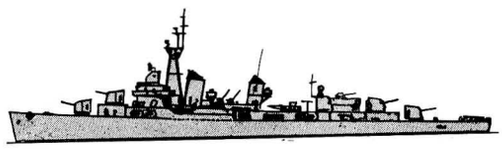
INDEPENDENCIA



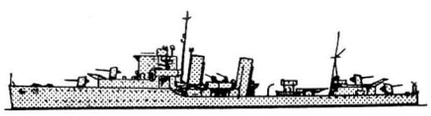
GENERAL BELGRANO, 9 DE JULIO



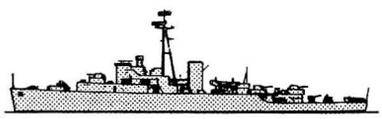
LA ARGENTINA



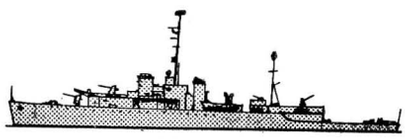
FLETCHER *Class*



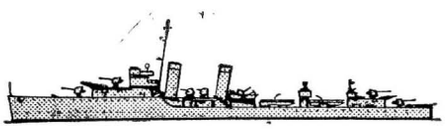
BUENOS AIRES *Class*



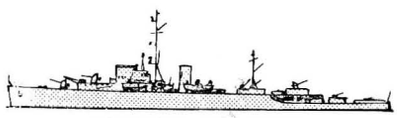
AZOPARDO, PIEDRABUENA



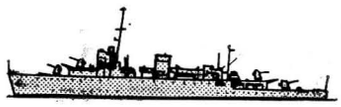
HERCULES



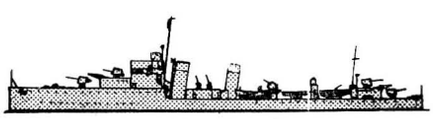
MENDOZA *Class*



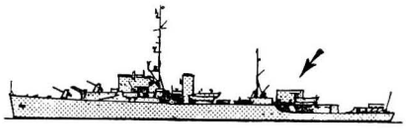
SARANDI, TRINIDAD



KING, MURATURE



CERVANTES *Class*

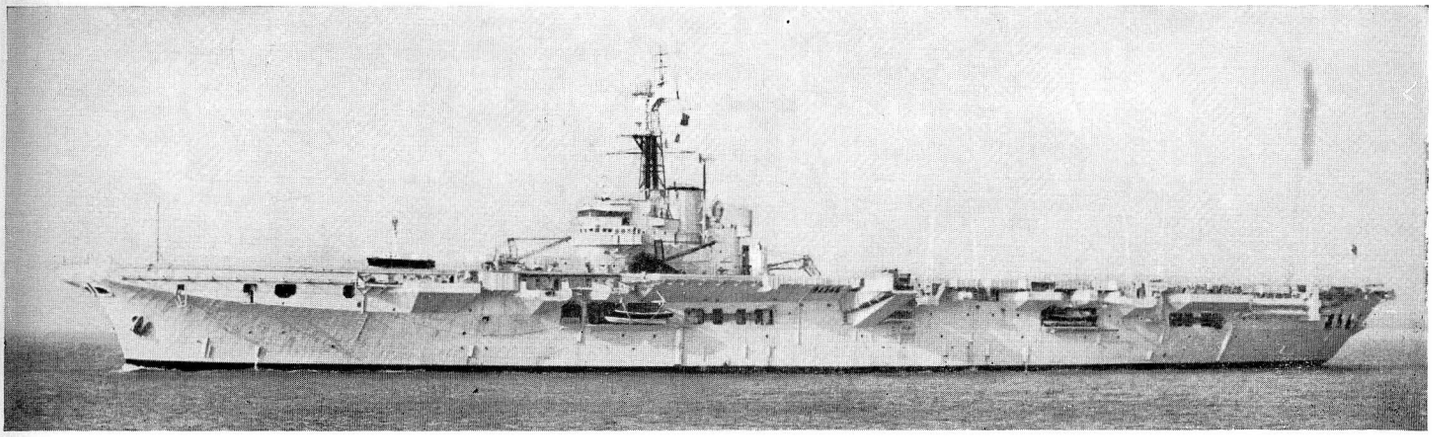


HEROINA



REPUBLICA

AIRCRAFT CARRIER *(Portaviones)*



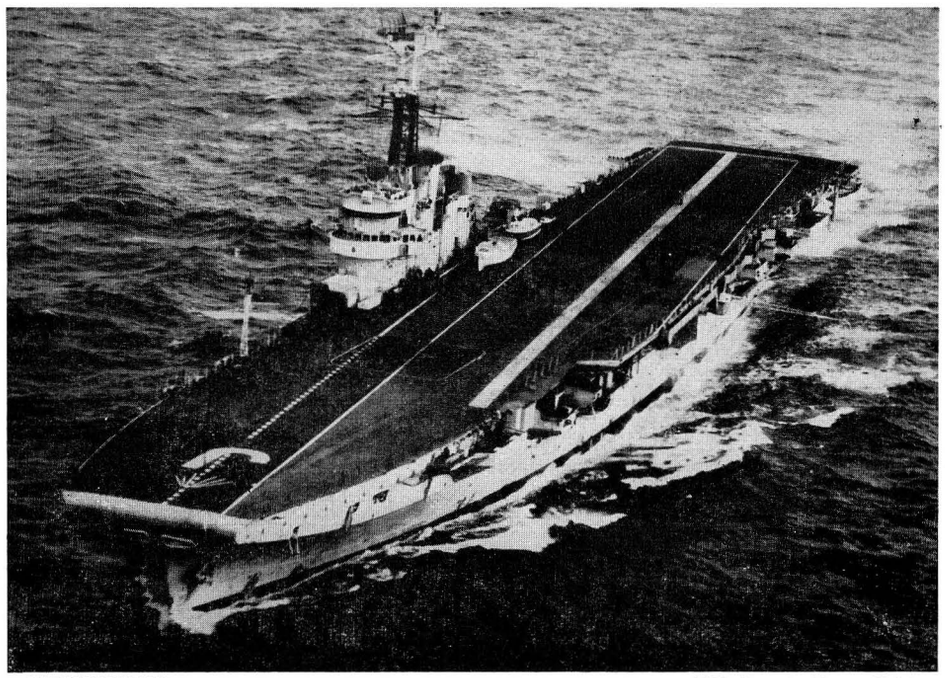
INDEPENDENCIA

1957, *Wright & Logan*

1 Ex-British Type ("Colossus" Class)

INDEPENDENCIA (ex-H.M.S. *Warrior*)

Builders:	Harland & Wolff, Ltd., Belfast
Laid down:	12 Dec. 1942
Launched:	20 May 1944
Completed:	24 Jan. 1946
Displacement:	14,000 tons *standard*, 18,400 tons *normal* (19,540 tons *full load*) officially revised figures
Dimensions:	Length: 630 (*pp.*), 695 (*o.a.*) feet. Beam: 80 feet. Width: 118 (*o.a.*) feet. Draught: 21½ (*mean*), 23½ (*max.*) feet. Flight deck: 690 feet long, 80 feet wide, 39 feet above water line
Guns:	8—40/60 mm. Bofors AA. (Provisionally)
Aircraft:	21 capacity
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 42,000=25 kts. (24·25 kts. sea speed)
Boilers:	4 Admiralty 3-drum type (400 lb. working pressure, 700 degrees maximum superheat)
Oil fuel:	3,200 tons
Radius:	12,000 miles at 14 kts.; 6,200 miles at 23 kts.
Complement:	1,076 (peace), 1,300 (war).



INDEPENDENCIA

1959, *Argentine Navy, Official*

General Notes

Lent to the Royal Canadian Navy from 1946 to 1948. Served in British Navy from 1948 to 1958. Modernised in 1952-53 with lattice foremast and extended and enlarged bridgework. Again modernised in 1955-56 with the partially angled flight deck and improved arrester gear. Acted as headquarters ship in the Christmas Island Atomic experiments from Feb. to Oct. 1957. Negotiations for the sale of the ship to the Argentine Government were concluded by the British Government in July 1958. Sailed from Portsmouth to Argentina on 10 Dec. 1958. Renamed *Independencia* at Puerto Belgrano naval base on 26 Jan. 1959.

Engineering Notes

Engines and boilers are arranged *en echelon*, the two propelling machinery spaces having one set of turbines and two boilers installed side by side in each space, on the unit system, so that the starboard propeller shaft is longer than the port shaft. Maximum speed is 25 knots at 225 revolutions per minute. Economical speed is 15 knots at 120 revolutions per minute.

Hangar Notes

Dimensions of hangar are: Length, 445 feet; width, 52 feet; clear depth, 17½ feet. Dimensions of aircraft lifts are: 45 feet by 34 feet.

Construction Notes

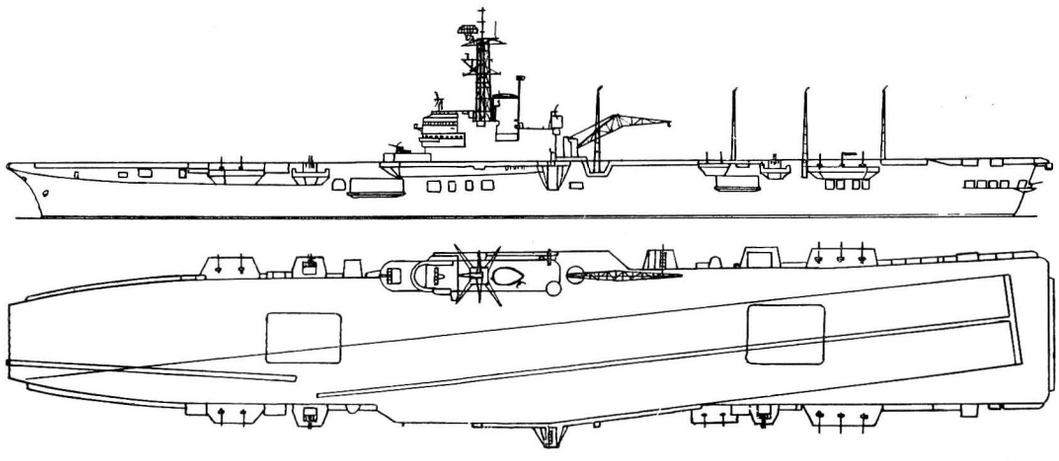
Flight deck is reported to have been strengthened to take aircraft of over 8 tons in weight. Sponsons can be dismantled to the extent of 3½ feet on either side if necessary to allow for passage through Panama Canal. Mercantile type hull. Built to Lloyd's specification up to main deck with the original intention of converting to commercial service after the Second World War. Damage control: No great measure of vertical sub-division on the sandwich system as it was reckoned that it is better for ships to settle evenly in the event of damage and flooding than to foster capsizing. Insulated for tropical service and partially air-conditioned.

Operational Notes

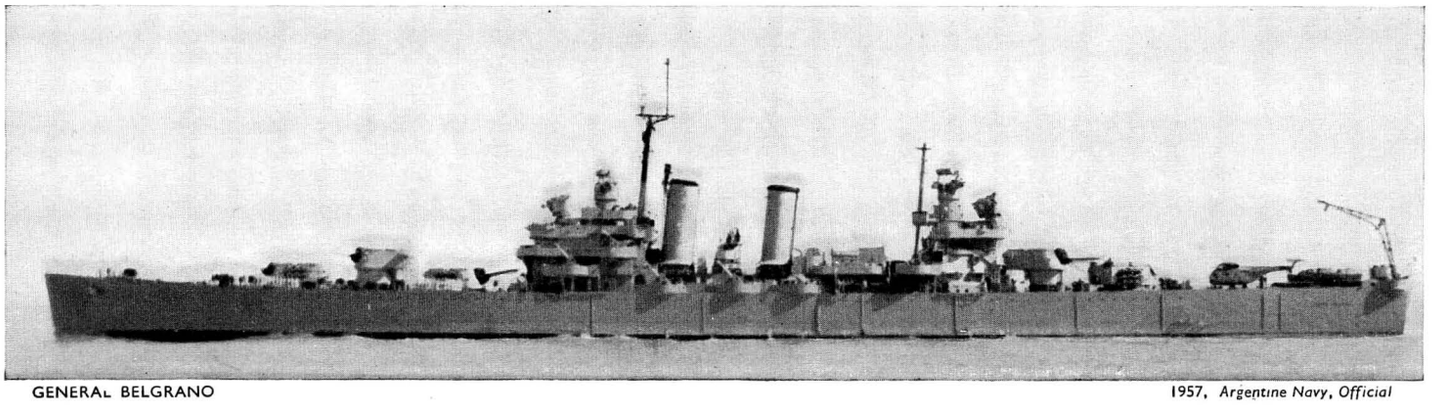
Ten arrester wires to take 15,500 lb. aircraft up to 60 knots. Single track catapult for launching 20,000 lb. aircraft at 60 knots. Catapult accelerator gear port side forward. Flight deck originally designed for 14,000 lb. aircraft reinforced to take 20,000 lb. machines.

Notes to Drawing

Port elevation and plan. Drawing shows typical layout of guns when she was operational before transfer. Scale: 128 feet=1 inch.



CRUISERS



GENERAL BELGRANO

1957, *Argentine Navy, Official*

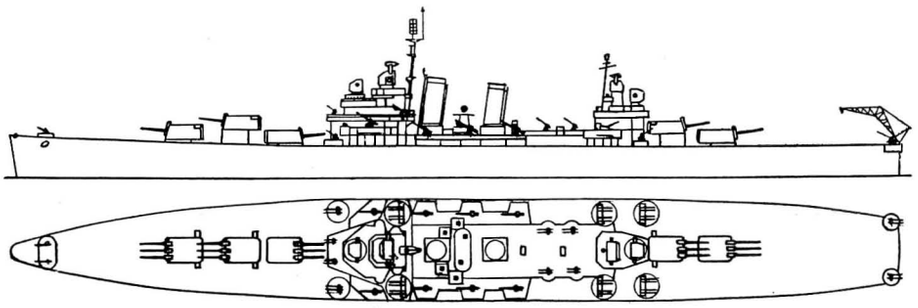
2 "9 de Julio" Class

GENERAL BELGRANO (ex-17 *de Octubre*, ex-*Phoenix*)
9 DE JULIO (ex-*Boise*)

Displacement:	*General Belgrano:* 10,800 tons *standard*, 12,650 tons *normal* (13,470 tons *full load*) officially revised figures *Nueve de Julio:* 10,500 tons *standard*, 12,300 tons *normal* (13,645 tons *full load*) officially revised figures (May 1960)
Dimensions:	Length: 608½ (*o.a.*) feet. Beam: 69 feet. Draught: 24 feet (*max.*)
Guns:	15—6 inch, 47 cal.; 8—5 inch, 25 cal.; 28—40 mm. AA.; 16—20 mm. AA.; 4—47 mm. *saluting.*
Aircraft:	2 helicopters
Armour:	4"-1½" belt, 3"+2" decks, 5"-3" turrets, 8" C.T.
Machinery:	Westinghouse geared turbines. 4 shafts. S.H.P.: 100,000=32·5 kts.
Boilers:	8 Babcock & Wilcox Express type
Oil fuel:	2,200 tons
Radius:	7,600 miles at 15 kts.
Complement:	1,200

General Notes

Formerly CL 46 and CL 47, respectively, of the U.S. "Brooklyn" Class. Superstructure has been reduced, bulges added, beam increased, and mainmast derricks and catapults removed. Purchased from the United States in 1951 at a cost of $7,800,000, representing 10 per cent of their original cost ($37,000,000) plus the expense of reconditioning them. Both were transferred to the Argentine Navy on 12 Apr. 1951. *General Belgrano* was commissioned under the name 17 *de Octubre* at Philadelphia on 17 Oct. 1951. 9 *de Julio* was commissioned into the Argentine Navy at Philadelphia on 11 Mar. 1952.



Hangar Notes

The hangar in the hull right aft could accommodate one helicopter together with engine spares and duplicate parts, though 4 aircraft was the original complement. The incorporation of this hangar resulted in a very wide and nearly flat counter and high freeboard aft and also gave the after guns higher command. Above the hangar a revolving crane was placed at the stern extremity overhanging the hangar hatch. The two aircraft catapults originally mounted above the hangar, as far outboard as possible, were removed. It was officially stated in May 1960 that the crane and catapult of these two cruisers have been removed, and they do not carry any aircraft.

Note to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

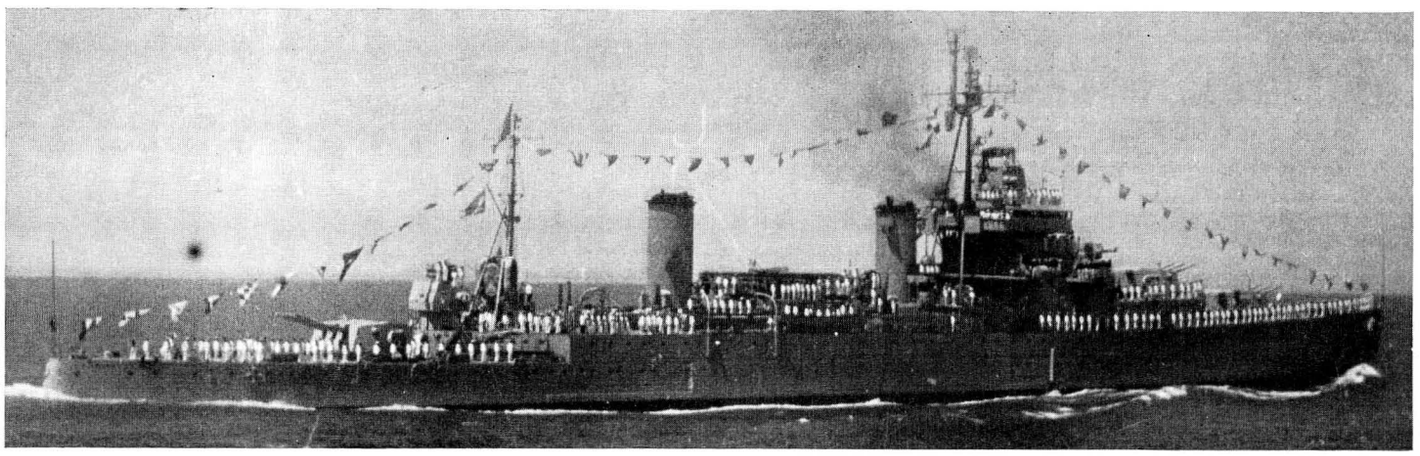
Photograph Notes

A starboard bow aerial view of 9 *de Julio* appears in the 1954-55 to 1958-59 editions, and a larger port quarter surface view of 9 *de Julio* appears in the 1957-58 edition.

Historical Notes

9 *de Julio* refers to 9 July, 1816, when the Argentine provinces signed the Declaration of Independence. 17 *de Octubre* was renamed *General Belgrano* in 1956 following the overthrow of President Peron the year before.

Name	*Builders*	*Laid down*	*Launch*	*Completed*
General Belgrano	New York S.B. Co., Camden	15 Apr. 1935	12 Mar. 1938	18 Mar. 1939
Nueve de Julio	Newport News S.B. Co.	1 Apr. 1935	3 Dec. 1936	1 Feb. 1939



LA ARGENTINA

1960, *Argentine Navy, Official*

LA ARGENTINA

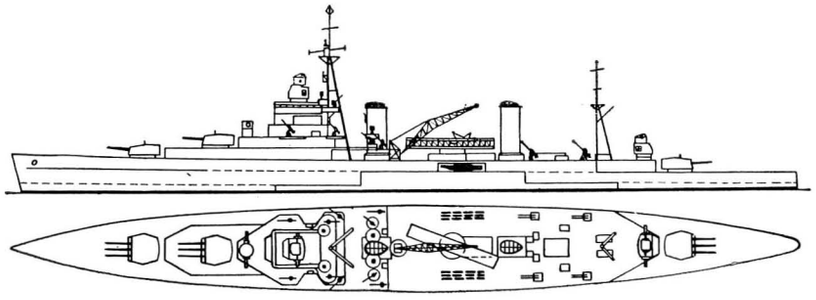
Builders:	Vickers-Armstrongs Ltd., Barrow-in-Furness
Laid down:	Jan. 1936
Launched:	16 Mar. 1937
Completed:	31 Jan. 1939
Displacement:	6,000 tons *standard*, 7,610 tons *normal* (8,630 tons *full load*) officially revised figures (May 1960)
Dimensions:	Length: 510 (*pp.*), 541½ (*o.a.*) feet. Beam: 56½ feet. Draught: 16½ feet (*max.*)
Guns:	9—6 inch, 4—47 mm., 14—40 mm. AA.
Tubes:	6—21 inch (tripled)
Armour:	3" side, 2" deck, 2" gunhouses, 3" C.T.
Machinery:	Parsons geared turbines. 3 shafts. S.H.P.: 54,000=30 kts.
Boilers:	4 Yarrow, working pressure 300 lb.
Oil fuel:	1,500 tons
Radius:	7,500 miles at 12 kts.
Complement:	800

General Notes

Specially designed as Training Cruiser. Named after the Republic. Cost 6,000,000 gold pesos (about £1,750,000). The catapult originally mounted for the two Seagull Amphibian aircraft formerly carried was suppressed, and it was officially stated in May 1960 that the crane was also removed. Sailed on world cruise with cadets on 18 July 1961.

Gunnery Notes

Original 4 inch guns were removed in 1950 and 40 mm. guns added.



Note to Drawing

Port elevation and plan. Catapult and crane have been removed. Scale: 128 feet=1 inch.

Recent Disposals

The two old heavy cruisers *Almirante Brown* and *Veinticinco de Mayo* (25 May), see full particulars, photograph and drawings in the 1959-60 edition were withdrawn from service in May 1960 and offered for sale, for scrap, in Sep. 1961.

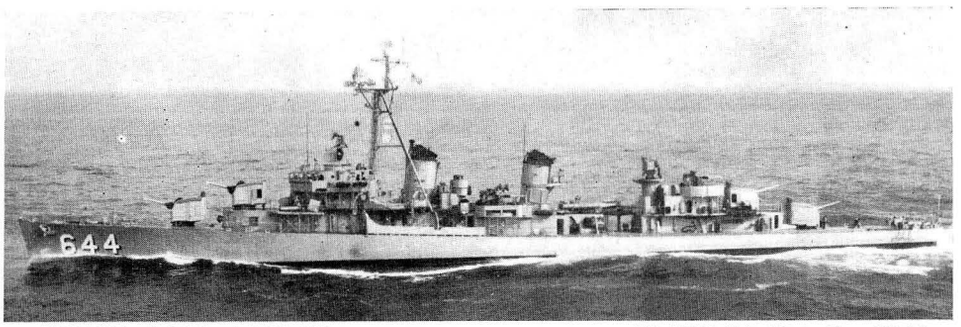
DESTROYERS

3 Ex-U.S. " Fletcher " Class

BROWN (ex-U.S.S. *Heerman*, DD 532)
ESPORA (ex-U.S.S. *Dortch*, DD 670)
ROSALES (ex-U.S.S. *Stembel*, DD 644)

Displacement:	2,100 tons *standard* (3,050 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39½ × 12¼ (*mean*), 18 (*max.*) feet
Guns:	5—5 inch, 38 cal. d.p., 6—40 mm. Bofors, 10—20 mm. Oerlikon, (see *Conversion Notes*) Rearmed ships: 4—5 inch, 38 cal., 6—3 inch, 50 cal. AA.
Tubes:	5—21 inch (quintupled). Some ships from reserve had two sets of 5 torpedo tubes
A/S weapons:	2 fixed Hedgehogs, 1 D.C. rack, 2 side-launching torpedo racks
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	300 (peace) 350 (war)

General Notes
Former United States destroyers transferred to the Argentine Navy on 1 Aug. 1961. *Espora* is of the later " Fletcher " class.



ROSALES (ex-U.S.S. *Stembel*, DD 644) *Added* 1962, *United States Navy, Official*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 20	*Brown*	Bethlehem Steel Co., San Francisco	8 May 1942	5 Dec. 1942	6 July 1943
D 21	*Espora*	Federal S.B. & D.D. Co.	1942	20 June 1943	7 Aug. 1943
D 22	*Rosales*	Bath Iron Works Corporation	21 Dec. 1942	8 May 1943	16 July 1943

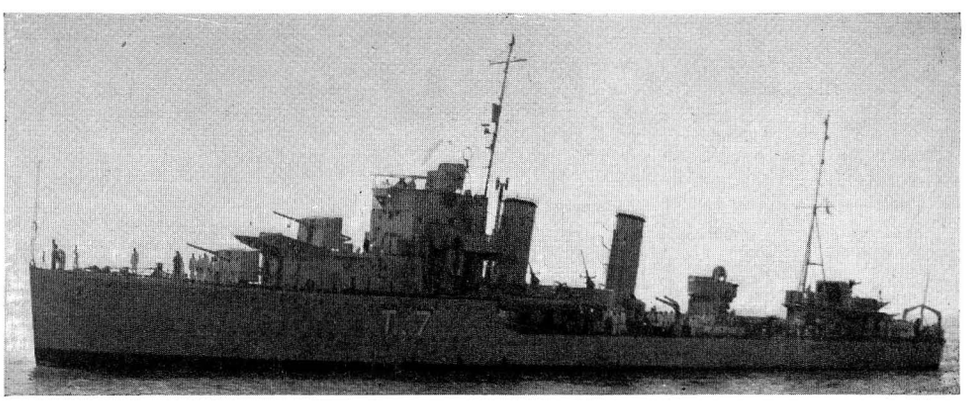
6 " Buenos Aires " Class

BUENOS AIRES **MISIONES** **SAN JUAN**
ENTRE RIOS **SANTA CRUZ** **SAN LUIS**

Displacement:	1,375 tons *standard*, 1,820 to 1,850 tons *normal* (1,980 to 2,010 tons *full load*) officially revised figures (May 1960)
Dimensions:	312 (*pp.*), 320 (*w.l.*), 323 (*o.a.*) × 34¾ × 10¾ (*mean*) feet
Guns:	4—4·7 inch, 6—40 mm. AA., 5 M.G.
Tubes:	4—21 inch (quadrupled)
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 34,000=35 kts.
Boilers:	3, of 3-drum type
Oil fuel:	450 tons
Radius:	4,100 miles at 14 kts.
Complement:	200

Pennant Nos.	*Name*	*Builders*	*Launched*
D 6	*Beunos Aires*	Vickers-Armstrongs Bar.	21 Sep. 1937
D 7	*Entre Rios*	Vickers-Armstrongs Bar.	21 Sep 1937
D 11	*Misiones*	Cammell Laird Birkenhead	23 Sep. 1937
D 9	*San Juan*	John Brown Clydebank	24 June 1937
D 10	*San Luis*	John Brown Clydebank	24 Aug. 1937
D 12	*Santa Cruz*	Cammell Laird Birkenhead	3 Nov. 1937

Notes
All laid down in 1936 and completed during March-Oct. 1938. Cost approached £400,000 each. *Corrientes*, of this class, was lost by collision with the heavy cruiser *Almirante Brown* during exercises on 3 Oct. 1941. Names are those of provinces of the Argentine Republic. Classification of these ships was changed from *Exploradores* to *Torpederos* in 1952. and from *Torpederos* to *Destructores* in 1957. Four torpedo tubes were removed in 1956.



ENTRE RIOS 1957, *Argentine Navy, Official*

Recent Disposals
The three old destroyers of the " Mendoza " Class, *Mendoza*, *La Rioja* and *Tucuman*, were officially deleted from the list in Dec. 1961.
Of the two very old destroyers of the " Cervantes " class, *Cervantes* was officially deleted from the list in Dec. 1961 and *Garay* in May 1960.

SUBMARINES

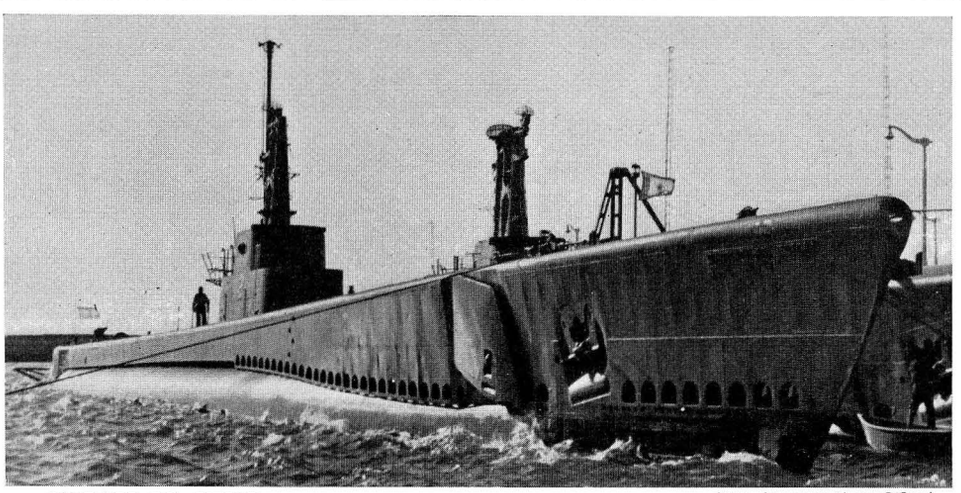
2 Ex-U.S. " Balao " Class

SANTA FE (ex-U.S.S. *Lamprey*, SS 372)
SANTIAGO DEL ESTERO (ex-U.S.S. *Macabi*, SS 375)

Name:	*Santa Fe*	*Santiago del Estero*
Pennant No.:	S 11	S 12
Launched:	18 June 1944	19 Sep. 1944
Completed:	17 Nov. 1944	29 Mar. 1945

Displacement:	1,526 tons *stabdard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½ × 27 × 17 feet
Guns:	1—5 inch, 25 cal., d.p., 1—40 mm. AA.
Tubes:	10—21 inch (6 bow, 4 stern), 24 torpedoes Mk. 14
Machinery:	General Motors 2-stroke diesels. B.H.P.: 6,500=20 kts. (*surface*). Electric motors. H.P.: 4,610=10 kts. (*submerged*). Have 2 engine rooms instead of 1, to reduce size of compartments
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	82

General Notes
Former United States submarines of the " Balao " class. *Lamprey* was transferred from the U.S.A. to Argentina at Mare Island Naval Shipyard, San Francisco, on 21 July 1960, and *Macabi* in Sep. 1960, after having been refitted with deck gun abaft the conning tower. Both were built by the Manitowoc Shipbuilding Company.


SANTIAGO DEL ESTERO 1962, *Argentine Navy, Official*

Recent Disposals
The old submarines *Salta* and *Santiago del Estero* were withdrawn from service and deleted from the list, it was officially stated in May 1960. Their sister ship *Sante Fe* was officially removed from the Navy list in 1957.

GENERAL PURPOSE FRIGATES (A/S)

" Leander " Class. Improved Type 12
4 New Construction
1st Rate (*Anti-Submarine Versatile Type*)

No. of Ships	*Builders*
2	J. Samuel White & Co. Ltd., Cowes, Isle of Wight
2	Yarrow & Co. Ltd., Scotstoun, Glasgow

Displacement:	Over 2,200 tons *standard* (over 2,800 tons *full load*)
Dimensions:	360 (*pp.*), 370 (*o.a.*) × 41 × 12 feet
Guns:	2—4·5 inch (twin turret)
Guided missiles:	2 " Seacat " anti-aircraft
Aircraft:	1 lightweight helicopter armed with homing torpedoes
Machinery:	2 sets double reduction geared turbines. 2 shafts. S.H.P.: 30,000=30 kts.

General Notes
The Argentine Embassy in London announced on 11 Jan. 1962 that it had been decided to place orders with British shipbuilding firms for the construction of four general purpose (A/S) fast frigates of the " Leander " class, two from J. Samuel White & Co., Ltd., Cowes, Isle of Wight, and two from Yarrow & Co., Ltd., Scotstoun, Glasgow.
On 17 May it was officially stated that the orders had been shelved for an indefinite period because of Argentina's financial position.

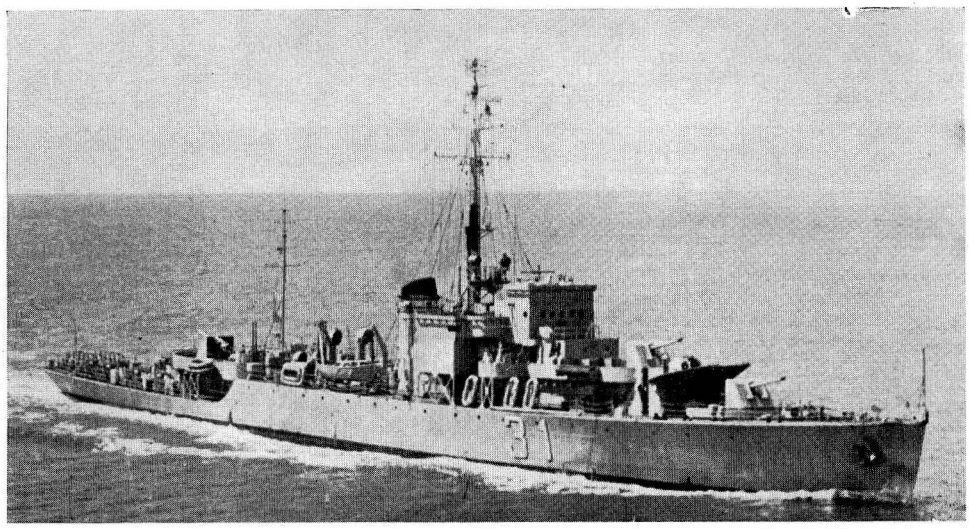
FRIGATES

1 Ex-" River " Class

HERCULES (ex-U.S.S. *Asheville*, ex-H.M.C.S. *Nadur*, ex-H.M.S. *Adur*)

Builders:	Canadian Vickers Ltd., Montreal
Laid down:	10 Mar. 1942
Launched:	22 Aug. 1942
Completed:	1 Dec. 1942
Displacement:	1,445 tons *standard*, 2,050 tons *normal* (2,320 tons *full load*) officially revised figures
Dimensions:	283 (*w.l.*) 301½ (*o.a.*) × 36½ × 13¾ feet
Guns:	2—4·1 inch, 8—40 mm. AA.
A/S weapons:	1 Hedgehog, 6 D.C.T.
Machinery:	Triple expansion. I.H.P.: 5,500=20 kts. (designed). 19 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	635 tons
Radius:	7,800 miles at 12 kts.
Complement:	180

Notes
Former United States " Asheville " class patrol escort, British " River " type. Pennant No. P. 31. Fitted as Flagship.



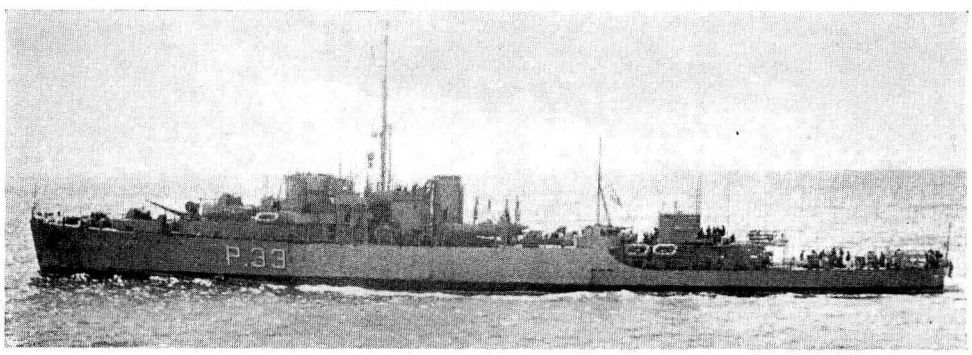
HERCULES — 1960, *Argentine Navy, Official*

3 " Sarandi " Class. Ex-U.S. PF Type

HEROINA (ex-U.S.S. *Reading*)
SARANDI (ex-U.S.S. *Uniontown*, ex-*Chattanooga*)
TRINIDAD (ex-H.M.S. *Caicos*, ex-*Hannam*)

Displacement:	1,420 to 1,445 tons *standard*, 1,920 tons *normal* (2,235 to 2,415 tons *full load*) officially revised figures
Dimensions:	285½ (*w.l.*), 304 (*o.a.*) × 37½ × 13¾ feet
Guns:	2—4·1 inch, 8—40 mm. AA.
A/S weapons:	1 Hedgehog, 6 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20·3 kts. on trials (19 kts. sea speed)
Boilers:	2, of 3-drum type
Oil fuel:	700 tons
Radius:	7,800 miles at 12 kts.
Complement:	175

Notes
Former United States patrol escorts of the " Tacoma " class. These ships bear the names of frigates which saw prominent action during the War of Independence. *Trinidad* was formerly known as *Santisma Trinidad*.



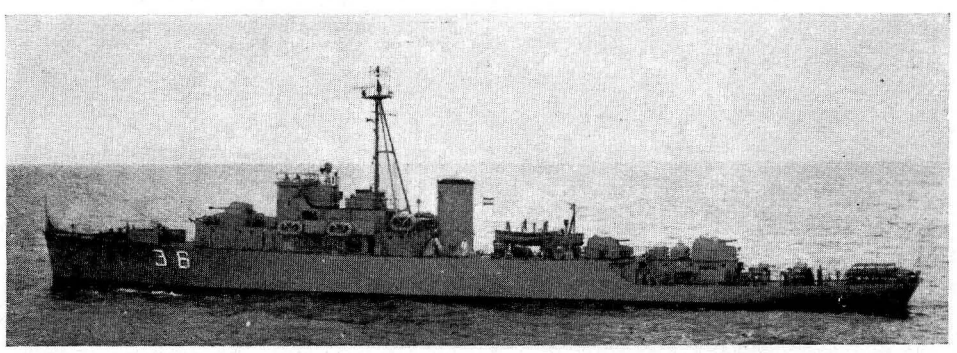
SARANDI — 1960, *Argentine Navy, Official*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
P 32	*Heroina*	Leatham Smith, Superior	25 May 1943	28 Aug. 1943	19 Aug. 1944
P 33	*Sarandi*	Leatham Smith, Superior	21 Apr. 1943	7 Aug. 1943	15 Apr. 1944
P 34	*Trinidad*	Walsh-Kaiser, Providence	1943	5 Sep. 1943	2 Jan. 1944

CORVETTES

2 " Azopardo " Class

	AZOPARDO	**PIEDRABUENA**
Name:	*Azopardo*	*Piedrabuena*
Pennant No.:	P 35	P 36
Laid down:	Nov. 1950	Nov. 1950
Launched:	11 Dec. 1953	17 Dec. 1954
Completed:	7 July 1957	16 Dec. 1958
Displacement:	1,160 tons *standard*, 1,220 tons *normal* (1,400 tons *full load*) revised figures	
Dimensions:	279 × 31½ × 10 feet	
Guns:	1—4·1 inch, 6—40 mm. Bofors AA.	
A/S weapons:	1 Hedgehog, 4 Depth Charge Mortars	
Machinery:	2 Parsons steam turbines. 2 shafts. S.H.P.: 5,000=20 kts.	
Boilers:	2 Water tube 3-drum type	
Oil fuel:	340 tons	
Radius:	2,300 miles	
Complement:	167	



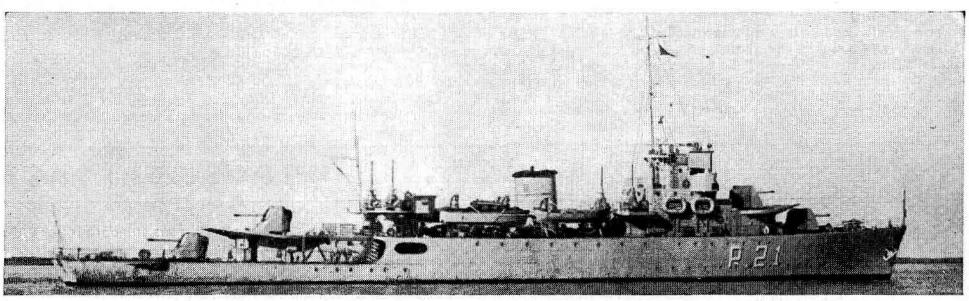
PIEDRABUENA — 1959, *Argentine Navy, Official*

Notes
Both built at Astillero Nav. Rio Santiago. Improved "King" type. *Azopardo* is named after the Argentine naval hero.

2 " King " Class

Rated as Patrol Vessels

	KING	**MURATURE**
Name:	*King*	*Murature*
Pennant No.:	P 21	P 20
Laid down:	Dec. 1938	June 1938
Launched:	Dec. 1943	July 1945
Completed:	28 July 1946	18 Nov. 1946
Displacement:	913 tons *standard*, 1,000 tons *normal* (1,032 tons *full load*)	
Dimensions:	252⅝ × 29 × 7¼ feet	
Guns:	3—4·1 inch, 2—40 mm. Bofors AA., 2—40 mm. NA. AA., 2 M.G.	
A/S weapons:	4 D.C.T.	
Machinery:	2 Werkspoor 4-stroke diesels. 2 shafts. B.H.P.: 2,500=18 kts.	
Oil fuel:	90 tons	
Radius	9,000 miles at 12 kts.	
Complement;	130	



KING — 1952, *Argentine Navy, Official*

Notes
Both built at Astillero Nav. Rio Santiago. Named after Captain John King, an Irish follower of Admiral Brown, who distinguished himself in the war with Brazil, 1826-28; and Captain Murature, who performed conspicuous service against the Paraguayans at the Battle of Cuevas on Aug. 6 1865.

Corvettes—*Continued*

1 Ex-British " Flower " Class

REPÚBLICA (ex-*Smilax*)

Builders: Collingwood Shipyards
Launched: 24 Dec. 1942
Completed: 21 June 1943

Displacement: 995 tons *standard*, 1,220 tons *normal* (1,375 tons *full load*)
Dimensions: 206⅔ × 34⅔ × 14¾ feet
Guns: 1—4·1 inch AA., 2—20 mm. AA.
A/S weapons: 1 Hedgehog, 4 D.C.T.
Machinery: Triple expansion. 1 shaft. I.H.P.: 2,750=16 kts. (*max.*)
Boilers: 2
Oil fuel: 350 tons
Radius: 6,800 miles at 10 kts.
Complement: 106

Notes
Former British modified " Flower " Class corvette (frigate). Transferred in 1949. Perpetuates the name of a corvette which distinguished herself in the War of Independence. Pennant No. P. 10.



REPUBLICA 1960, *Argentine Navy, Official*

COASTAL MINESWEEPERS

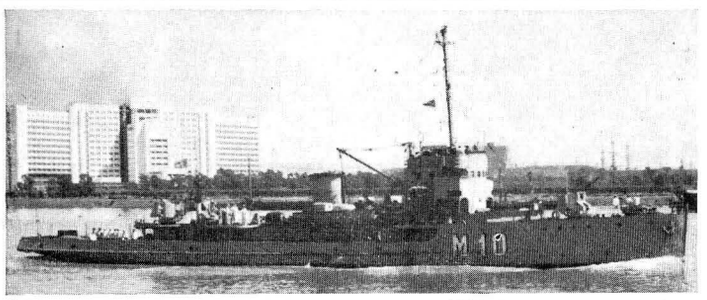
6 British " Ton " Class. New Construction

Builders: John I. Thornycroft & Co. Ltd., Woolston, Southampton

Displacement: 360 tons *standard* (425 tons *full load*)
Dimensions: 140 (*pp.*), 153 (*o.a.*) × 28¾ × 8¼ feet
Guns: 1—40 mm. Bofors AA. forward. 2—20 mm. AA. aft
Machinery: Diesels. 2 shafts. B.H.P.: 2,500 to 3,000=15 kts. (*max.*).
Oil fuel: 45 tons
Complement: 27 in peacetime (39 war)

General Notes
These are a new type of vessel with a double mahogany hull and constructed throughout of aluminium alloy and other materials with the lowest possible magnetic attraction to attain the greatest possible safety factor when sweeping for magnetic mines. John I. Thornycroft & Co. Ltd., Woolston, Southampton, were selected by the Argentine Navy to build this class of minesweepers of similar design capable of operating sweeps against both contact and influence type mines and dealing with mines operated magnetically and acoustically. The order was announced by the Argentine Embassy in London on 11 Jan. 1962. But on 17 May 1962 the order was shelved because of Argentina's financial position.

MINESWEEPERS



PY 1960, *Argentine Navy, Official*

BOUCHARD **GRANVILLE** **PY** **SEAVER**
DRUMMOND **PARKER** **ROBINSON** **SPIRO**

Displacement: 450 tons *standard*, 605 to 620 tons *normal* (650 tons *full load*) officially revised figures
Dimensions: 164 (*pp.*), 197 (*o.a.*) × 24 × 8½ feet (*max.*)
Guns: 4—40 mm. Bofors AA , 2 M.G.
Machinery: 2 sets M.A.N. 2-cycle diesels. B.H.P.: 2,000=16 kts.
Oil fuel: 50 tons
Radius: 3,000 miles at 10 kts.
Complement: 70

Notes
All laid down in 1935-37. First Argentine warships built in local shipyards. Named after distinguished naval officers (several of whom were of British extraction). Carry mines.

Pennant No.	*Name*	*Builders*	*Launched*
M 7	*Bouchard*	Rio Santiago Naval Yard	20 Mar. 1936
M 2	*Drummond*	Rio Santiago Naval Yard	19 June 1936
M 4	*Granville*	Rio Santiago Naval Yard	27 Jan. 1937
M 11	*Parker*	Sanchez Shipyard, San Fernando	2 May 1937
M 10	*Py*	Rio Santiago Naval Yard	30 Mar. 1938
M 3	*Robinson*	Hansen & Puccini, San Fernando	18 Aug. 1938
M 12	*Seaver*	Hansen & Puccini, San Fernando	18 Aug. 1938
M 13	*Spiro*	Rio Santiago Naval Yard	7 June 1937

MOTOR TORPEDO BOATS



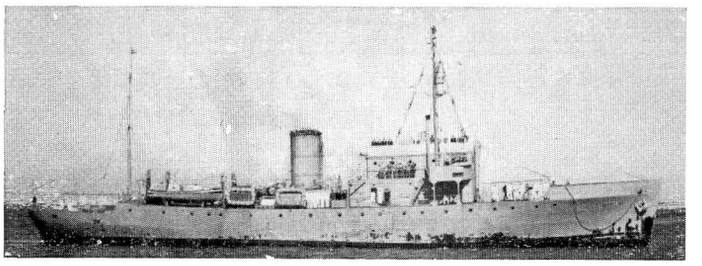
LT 2 *Added* 1958, *Argentine Navy, Official*

LT 1 **LT 3** **LT 5** **LT 7** **LT 8** **LT 9**

Displacement: 45 tons *standard* (50 tons *full load*)
Dimensions: 71 (*pp.*), 78¾ (*o.a.*) × 20 × 4½ feet
Guns: 2—40 mm. NA. AA., 2—·5 inch Br. AA. M.G.
Torpedoes: 4 torpedo cradles
A/S weapons: 2 rocket projectors
Machinery: 3 Packard engines. H.P.: 4,500=42 kts. (*max.*)
Fuel: 9 tons aviation spirit
Radius: 1,000 miles at 20 kts.
Complement: 12

Notes
" Higgins " type. Built in New Orleans, U.S.A. in 1946. Pennant Nos. P 81, P 83, P 85, P 87, P 88 and P 89, respectively. LT 2, LT 4 and LT 6 were officially removed from the List in 1961.

SURVEYING VESSELS (*Buques Oceanograficos*)



CAPITAN CANEPA 1958, *R.M. Scott*

CAPITAN CANEPA (ex-H.M.C.S. *Barrie*)

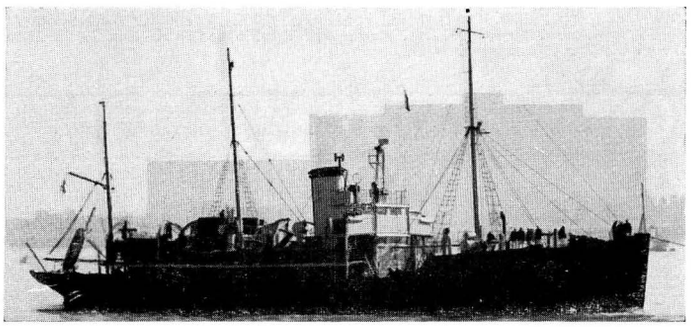
Displacement: 995 tons *standard* (1,265 tons *full load*)
Dimensions: 208 × 33½ × 16½ feet
Machinery: Triple expansion. I.H.P.: 2,750=15 kts.
Boilers: 2
Oil fuel: 271 tons
Complement: 54

Notes
Former Canadian corvette (frigate) of the " Flower " class. Launched in Canada on 12 Nov. 1940. Completed on 12 May 1941.

USHUAIA

Displacement: 1,275 tons *standard* (1,500 tons *full load*)
Dimensions: 211 × 31½ × 11½ feet
Guns: Removed
Machinery: 2 sets diesels. 2 shafts. B.H.P.: 1,200=12·7 kts.
Oil fuel: 60 tons (officially revised figure)
Radius: 3,500 miles
Complement: 65

Notes
Built at Rio Santiago. Launched in 1939. Named after the capital of the territory of Tierra del Fuego. Pennant No. B 4. Formerly rated as a transport until 1959.



BAHIA BLANCA 1958, *Argentine Navy, Official*

BAHIA BLANCA (ex-*San Luis*)

Displacement: 843 tons *standard* (970 tons *full load*)
Dimensions: 195 (*pp.*), 206¾ (*o.a.*) × 33 × 11¾ feet
Guns: 1—3 inch
Machinery: Hawthorn-Werkspoor Diesel. 1 shaft. B.H.P.: 750=12·5 kts.
Boilers: 1 single-ended Scotch to supply steam to auxiliary machinery
Oil fuel: 88 tons
Radius: 7,000 nautical miles
Complement: 63

Notes
Built by Hawthorn Leslie & Co., Ltd., Hebburn-on-Tyne. Launched on 26 Oct. 1927. Delivered in Feb. 1928. Named after Argentine port. Pennant No.: Q7,
Sister ship *Madryn* will in future be a training ship, it was officially stated in 1961 (see next page).

ALFEREZ MACKINLAY

Displacement: 700 tons *standard*, 935 tons *normal* (1,020 tons *full load*)
Dimensions: 193 × 28¼ × 13 feet
Machinery: H.P.: 520=9·5 kts.
Coal fuel: 195 tons
Radius: 4,500 miles

Notes
Built in the Netherlands. Launched in 1914. Former Surveying Vessel used as Lighthouse Inspection Vessel. Subsequently fitted out as a Rescue Ship and rated as such until 1959 when she was reclassified as a surveying vessel Pennant No. Q 11
The gantry Ship *Samba* (ex-U.S. *LST* 1104) is no longer a unit of the Navy.

TANK LANDING SHIPS

BDT 1 **CABO SAN BARTOLOME**
BDT 2 **CABO SAN DIEGO**
BDT 3 **CABO SAN FRANCISCO DE PAULA**
BDT 4 **CABO SAN GONZALO**
BDT 6 **CABO SAN ISIDRO**
BDT 7 **CABO SAN PABLO**
BDT 10 **CABO SAN PIO**
BDT 11 **CABO SAN SEBASTIAN**
BDT 13 **CABO BUEN TIEMPO**
BDT 14 **CABO SAN VICENTE**

Displacement:	2,366 tons (*beaching*), 4,080 tons (*full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11½ (14 *max.*) feet
Machinery:	2 sets diesels. Two screws. B.H.P.: 1,800=11 kts.
Oil fuel:	700 tons
Radius:	9,500 at 9 kts.
Complement:	80

Notes
Ex-United States LST's 875, 995, 998, 872, 919, 994, 1057, 1044, 1108. Built by Puget Sound Bridge and Dredging Co., Seattle, U.S.A. Launched in 1944. Have two rudders. BTD 1 to 5 Pennant Nos. O 41 to 45. BTD 7, and 11 were named *Dona Elora* and *Dona Irma*. BDT 5, BDT 8, BDT 9, and BDT 12, were withdrawn from service in 1958-60.

MEDIUM LANDING SHIPS

BDM 1 **BDM 2**

Displacement:	743 tons (*beaching*), 1,095 tons (*full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 33¾ × 6 (8 *max.*) feet
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 2,800=13 kts.
Oil fuel:	170 tons
Radius:	4,100 miles at 12 kts.
Complement:	60

Notes
Former American LSM's 267 and 86, respectively. Pennant Nos. Q 69 and Q 70.

INFANTRY LANDING CRAFT



BDI 4 1960, *Giorgio Arra*

BDI 1 (Q.54) **BDI 2 (Q.55)** **BDI 4 (Q.57)** **BDI 15 (Q.68)**

Displacement:	230 tons *light* (387 tons *full load*)
Dimensions:	153 (*w.l.*), 159 (*o.a.*) × 23½ × 5 feet
Guns:	2—20 mm. NA. AA. (only in BDI's 2 and 4)
Machinery:	8 sets diesels. B.H.P.: 3,200=14 kts. Two reversible propellers
Oil fuel:	110 tons
Radius:	6,000 miles at 12 kts.
Complement:	30

Notes
Ex-American LCIL's 583, 1067, 606 and 689. BDI 3, BDI 6, BDI 8, BDI 9, BDI 11, and BDI 13 were withdrawn from service in 1958. BDI 1, BDI 2 and BDI 4 were given new Q numbers as shown above instead of Q 64, 65 and 67. BDI 10 (Q.63) was converted into an oiler in 1960 and renamed *Punta Lara*. BDI 5, BDI 7, BDI 12 and BDI 14 were officially deleted from the list in 1961.

Minor Landing Craft
There are also 20 personnel and vehicle landing craft, all ex-American LCVP's numbered EDPV 1, 2, 3, 4, 6, 7, 8, 9, 10, 11 12, 13, 17, 19, 20, 21, 22, 24, 27 and 28. Displacement: 12 tons. Dimensions: 39½ × 10½ × 5½ feet. Machinery: diesel. Speed 9 kts. Nos. 16, 23, 25 and 26 were withdrawn from service in 1959.

SALVAGE VESSEL (*Buque de Salvamento*)



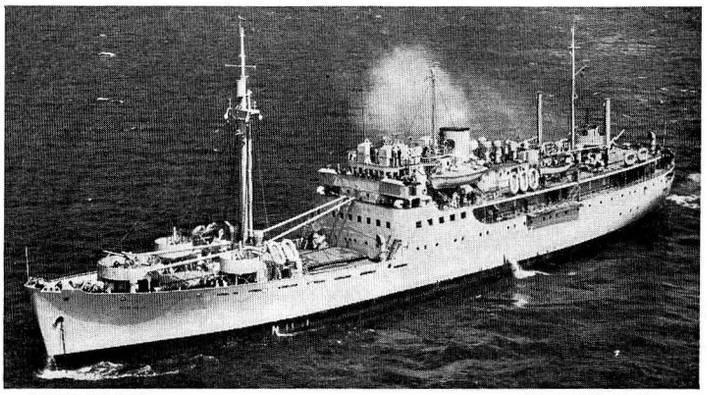
TEHUELCHE 1962 *Argentine Navy, Official*

TEHUELCHE (ex-H.M.S. *Kingfisher*, ex-*King Salvor*

Displacement:	1,600 tons
Dimensions:	200¼ (*pp.*), 216 (*o.a.*) × 37¾ × 13 (*max.*) feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,500=12 kts.
Oil fuel:	310 tons
Complement:	82

Notes
Former British submarine rescue ship. Built as an Admiralty ocean salvage vessel by Wm. Simons & Co. Ltd., Renfrew, Scotland, and laid down on 17 May 1941, launched on 18 May 1942 and completed on 17 July 1942. Converted into a Submarine Rescue Bell and Target Ship in 1953-54. Paid off as Bell Rescue Ship in 1958 and subsequently employed as a Submarine Support Ship and Tender. Purchased from Great Britain in Dec. 1960, and sailed from Chatham to Argentina in Apr. 1961.

TRANSPORTS (*Transportes*)

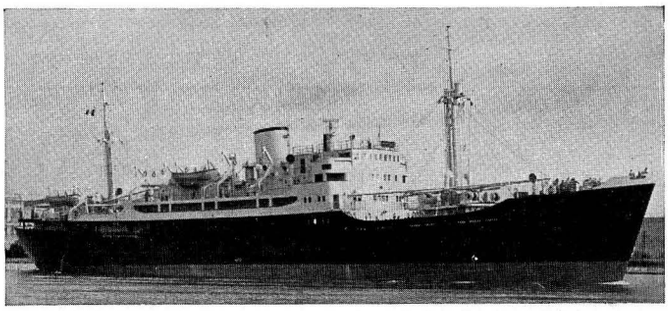


BAHIA THETIS *Added 1960, Skyfotos*

BAHIA AGUIRRE **BAHIA BUEN SUECESCO** **BAHIA THETIS**

Displacement:	3,100 tons *standard* (5,000 tons *full load*)
Dimensions:	334⅜ × 47 × 18¾ feet
Guns:	(*Bahia Thetis*) 2—4·1 inch, 2—40 mm. Bofors AA., 2—20 mm NA. AA., 4—47 mm. saluting (*Bahia Aguirre*) 2—20 mm. NA. AA.
Machinery:	2 sets Nordberg diesels. 2 shafts. B.H.P.: 3,750=16 kts.
Oil fuel:	500 tons (*Bahia Thetis*), 422 tons (*Bahia Buen Suecesco*). 355 tons (*Bahia Aguirre*)
Radius:	15,000 miles
Complement:	100

Notes
Built in Canada by Halifax Shipyards. *Bahia Buen Suecesco* was completed at Halifax, Nova Scotia, in June 1950. Pennant Nos. B 2, B 6 and B 8, respectively. First two are troop transports. *Bahia Thetis* is used as a training ship and carries guns (see above).



LE MAIRE *Added 1955, Lieut. Aldo Fraccaroli*

LA PATAIA **LE MAIRE** **LES ECLAIRSEUR**

Displacement:	3,825 tons *standard* (6,000 tons *full load*)
Dimensions:	335¼ × 50¼ × 23 feet
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 3,400=16 kts.
Oil fuel:	500 tons
Radius:	15,000 miles
Complement:	100

Notes
Built in Italy by C. R. del Adriatico (CRDA). Laid down on 12 Apr. 1948 (*Le Maire* on 25 Apr.), launched on 25 June, 22 Oct. and 30 Mar., 1949, respectively and all completed in June 1950 being delivered on 2 Oct. 1951. Pennant Nos. B 10, B 11 and B 9, respectively. Troop transports.

BEAGLE

Measurement:	1,140 tons *deadweight*
Dimensions:	169 × 29½ × 11 feet
Machinery:	1 Humbol Deutch diesel. B.H.P.: 800
Oil fuel:	63 tons

Notes
Built in Bremer-Haven. Launched in 1952. Completed in 1953. Purchased in 1958. The transport *Ushuaia* has been reclassified as a surveying vessel (see previous page).

SAN JULIAN (ex-*FS* 281)

Displacement:	930 tons
Dimensions:	176 × 32½ × 11 feet
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 1,000=10 kts.
Oil fuel:	75 tons
Complement:	40

Notes
Ex-U.S. Army small cargo carrier. Built by Wheeler Shipbuilding Corpn. Launched in 1944. Pennant No. B7. It was officially stated in May 1960 that this vessel, formerly rated as a transport, was to be converted into a salvage vessel, but in Dec. 1961 it was officially stated that she will in future be a transport ship.

REPAIR SHIP

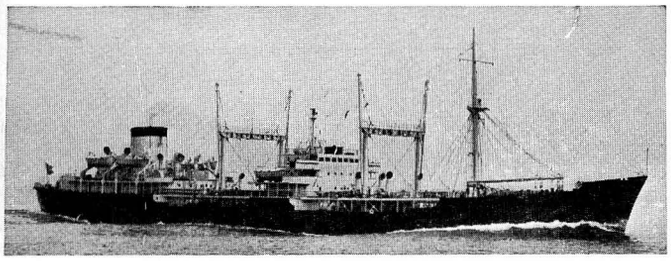
INGENIERO IRIBAS (ex-U.S. *LST* 81)

Displacement:	2,160 tons *standard* (3,776 tons *full load*) revised figures
Dimensions:	382 × 50 × 16¼ feet
Guns:	2—40 mm. AA. Bofors
Machinery:	2 sets diesels. B.H.P.: 1,800=11 kts
Oil fuel:	700 tons
Radius:	9,500 miles at 9 kts.
Complement:	150

Notes
Built by Jeffersonville Boat and Mach., Indiana. Launched in 1943. Two propellors and two rudders. Fitted as Repair Ship. Rated as Workshop Vessel. Bears the name of an engineer of the Argentine Navy who died on duty. Former U.S. landing ship. (Served in the British Navy during 1943-46.) Pennant No. Q 21. Sister ship *Ingeniero Gadda* (ex-U.S. *LST* 82) was withdrawn from service on 25 Aug. 1960 and deleted from the list.

Recent Disposals
The very old training ship *Presidente Sarmiento* was officially deleted from the list in 1961. The very old river monitors *Parana* and *Rosario* were withdrawn from service in 1958.

OILERS (*Buques Tanques*)



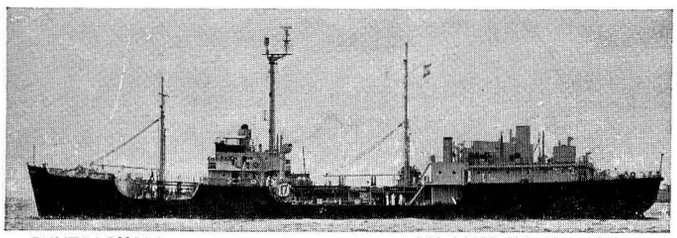
PUNTA MEDANOS — *Added 1955, Argentine Navy, Official*

PUNTA MEDANOS

Displacement:	14,352 tons *standard* (16,331 tons *full load*)
Measurement:	8,250 tons *deadweight*
Dimensions:	470 (*pp.*), 502 (*o.a.*) × 62 × 28½ feet
Machinery:	Double reduction geared turbines. 2 shafts. S.H.P.: 9,500
Boilers:	2 Babcock & Wilcox two-drum integral furnace water-tube
Speed:	Over 19 kts. obtained on trials
Oil fuel:	1,500 tons
Radius:	13,700 miles
Complement:	99

Notes

Built by Swan, Hunter & Wigham Ltd., Wallsend-on-Tyne. Launched on 20 Feb. 1950. Completed on 10 Oct. 1950. In her equipment this ship, a unit of the Argentine Navy available as a training vessel for personnel, is the embodiment of experience gained in modern fleet oilers, and was the finest and fastest of her type afloat. Fitted for fuelling warships at sea. Boilers built under licence by the Wallsend Slipway & Engineering Company. Steam conditions of 400 lb. per sq. in. pressure and 750 deg. F. temperature. Pennant No. B 18.



PUNTA LOYOLA — *Added 1955, U.S. Navy, Official*

PUNTA DELGADA (ex-*Sugarland*, ex-*Nanticoke*, *AOG* 66)
PUNTA LOYOLA (ex-*Capitan*, ex-*Klickitat*, *AOG* 64)
PUNTA NINFAS (ex-*Black Bayou*, ex-*Michigamme*, *AOG* 65)

Displacement:	5,930 tons *standard* (6,090 tons *full load*)
Dimensions:	325 × 48½ × 20 feet
Machinery:	Westinghouse diesel. 1 shaft. B.H.P.: 1,400 = 11·5 kts.
Oil fuel:	150 tons
Radius:	9,000 miles
Complement:	72

Notes

Bear names of geographical locations. All U.S.M.S. type TI-M-BTI. All built by St. John's River S.B. Co. Launched on 7 Apr. 1945, 24 Mar. 1945 and 31 May, 1945, respectively.

PUNTA RASA (ex-*Salt Creek*)

Displacement:	2,055 tons *standard* (2,253 tons *full load*)
Dimensions:	221 × 37 × 13¾ feet
Machinery:	Diesel. 1 shaft. B.H.P.: 800 = 10 kts.
Oil fuel:	60 tons
Radius:	3,500 miles
Complement:	37

Notes

Built by Barnes Dulath S.B. Co. Launched in 1943 and completed in 1944. Pennant No. B 14. Commissioned in 1947. Named after Cape. U.S. M.C. type TI-M-A2.

Recent Disposals

Sister ship *Punta Ciguena* (ex-*Sulphur Bluff*) was officially deleted from the list in 1961. *Punta Lara* (ex-BDI 10, Q 63, ex-U.S.S. LCIL 688) converted to an oiler, was also deleted from the list in 1961.

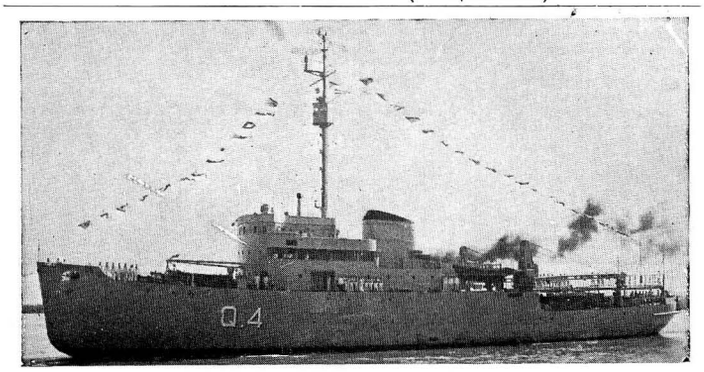
PUNTA ALTA

Displacement:	1,600 tons *standard* (1,900 tons *full load*)
Measurement:	800 tons *deadweight*
Dimensions:	210 × 33¾ × 12½ feet
Machinery:	Diesel. 1 shaft. B.H.P.: 1,850 = 8½ kts.
Oil fuel:	146 tons
Radius:	4,700 miles

Notes

Built at Puerto Belgrano. Launched in 1937. Named after a headland. Pennant No. B 12.

ICEBREAKER (*Rompehielos*)



GENERAL SAN MARTIN — 1955, *Argentine Navy, Official*

GENERAL SAN MARTIN

Displacement:	4,854 tons *standard* (5,301 tons *full load*)
Measurement:	1,600 tons *deadweight*
Dimensions:	279 × 61 × 21 feet
Guns:	1—4·1 inch, 2—40 mm. AA. Bofors
Aircraft:	1 reconnaissance aircraft and 1 helicopter
Machinery:	4 diesel-electric. 2 shafts. H.P.: 7,100 = 16 kts.
Endurance:	37,000 miles
Oil fuel:	1,100 tons
Complement:	160

Notes

Built by Seebeck Yard of Weser A.G. Launched on 24 June 1954. Completed in Oct. 1954. Used by the Antarctic Institute. Fitted for research. Specially insulated against cold.

TRAINING SHIPS (*Buques Escuela*)

LIBERTAD

Displacement:	4,000 tons (officially revised figure, May 1960)
Dimensions:	309½ × 45½ × 22½ feet
Guns:	1—3 inch, 4—40 mm. AA., 4—47 mm saluting
Machinery:	2 diesels. B.H.P.: 2,400 = 13·5 kts.
Endurance:	15,000 miles
Complement:	370 (crew) plus 150 cadets

Notes

Under construction in the State-owned shipyards at Rio Santiago. Sailing ship. Three masts. Launched on 30 June 1956. It was officially stated in May 1960 that this ship was practically completed.

MADRYN (ex-*Comodoro Rivadavia*, ex-*San Juan*)

Displacement:	843 tons *standard* (970 tons *full load*)
Dimensions:	195 (*pp.*), 206⅔ (*o.a.*) × 33 × 11¾ feet
Guns:	1—3 inch
Machinery:	Hawthorn-Werkspoor Diesel. 1 shaft. B.H.P.: 750 = 12·5 kts.
Boilers:	1 single-ended Scotch to supply steam to auxiliary machinery
Oil fuel:	88 tons
Radius:	7,000 nautical miles
Complement:	63

Notes

Built by Hawthorn Leslie & Co., Ltd., Hebburn-on-Tyne. Launched on 27 Sep. 1927. Delivered in Feb. 1928. Named after Argentine port. Pennant No. Q6. Formerly a surveying vessel until 1961, when it was officially stated she will in future be a training ship. Sister ship of *Bahia Blanca* (see previous page).

TUGS (*Remolcadores*)

GUAYCURU — **QUILMES**

Displacement:	368 tons (*max.*) official figure
Dimensions:	107½ × 24⅔ × 12½ feet
Machinery:	Skinner Unaflow engines. I.H.P.: 645 = 9 kts.
Boiler:	Cylindrical (Scottish)
Oil fuel:	52 tons
Radius:	2,200 miles at 7 kts.
Complement:	14

Notes

New tugs of the "Quilmes" class built at Rio Santiago, Argentina, in the State Naval Shipyards.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
R 33	*Guaycuru*	23 Aug. 1956	27 Dec. 1959	29 July 1960
R 32	*Quilmes*	15 Mar. 1956	8 July 1957	30 Mar. 1960

PEHUENCHE — **TONOCOTE**

Displacement:	330 tons
Dimensions:	105 × 24⅔ × 12½ feet
Machinery:	Triple expansion. I.H.P. : 600 = 11 kts.
Boilers:	2
Oil fuel:	36 tons
Radius:	1,200 miles
Complement:	13

Notes

Both built in Rio Santiago Naval Yard. Commissioned for service in 1954

CHARRUA (ex-U.S. Army *LT*-224)

Displacement:	982 tons
Dimensions:	149½ × 34 × 13½ feet
Guns:	2—20 mm. NA. AA.
Machinery:	Unaflow steam engine. 1 shaft. H.P.: 1,200 = 12 kts.
Boilers:	2
Oil fuel:	417 tons
Range:	9,500 miles
Complement:	37

Notes

Salvage tug. Built by Marietta Manufacturing Co. U.S.A., in 1945. Fitted as rescue ship Sister ship *Guarani* was lost without trace in the Straits of Magellan on 15 Oct. 1958.

CHIRIGUANO (ex-U.S. *ATA* 227) — **SANAVIRON** (ex-U.S. *ATA* 228)
DIAGUITA (ex-U.S. *ATA* 124) — **YAMANA** (ex-U.S. *ATA* 126)

Displacement:	689 tons *standard* (800 tons *full load*)
Dimensions:	133⅓ (*w.l.*), 143 (*o.a.*) × 34 × 12 feet
Guns:	2—20 mm. N.A. AA.
Machinery:	Diesel-electric. B.H.P.: 1,850 = 12·5 kts.
Oil fuel:	154 tons
Radius:	16,700 miles
Complement:	49

Notes

Ocean salvage tugs. Built by Levingstone Shipbuilding Co., Orange, Texas, U.S.A., in 1945. *Diaguita* and *Yamana* are fitted as rescue ships. All four of above ships bear names of South American Indian tribes.

Recent Disposal

The salvage tug *Ranquel* has been withdrawn from service and deleted from the list, it was officially stated in May 1960.

2 Ex-U.S. "Apache" Class

COMANDANTE GENERAL IRIGOYEN (ex-U.S.S. *Cahuilla*, ATF 152)
COMANDANTE GENERAL ZAPIOLA (ex-U.S.S. *Arapaho*, ATF 68)

Displacement:	1,235 tons *standard* (1,675 tons *full load*)
Dimensions:	195 (*w.l.*), 205 (*o.a.*) × 38½ × 12 (*mean*), 15½ (*max.*) feet
Guns:	1—3 inch, 4—40 mm. AA. 2—20 mm. AA. originally, but some armament reduced
Machinery:	4 sets diesels with electric drive. B.H.P.: 3,000 = 16·5 kts.
Complement:	85

Notes

Former United States fleet ocean tugs. Fitted with powerful pumps and other salvage equipment. Both built by Charleston S.B. & D.D. Co., Charleston, S.C. Launched on 2 Nov. 1944 and 22 June 1942, respectively, and completed on 10 Mar. 1945 and 20 Jan. 1943. Transferred to Argentina at San Diego, California, in 1961. Pennant Nos. 41 and 40, respectively.

MATACO — **TOBA**

Displacement:	600 tons
Measurement:	339 tons *gross*
Dimensions:	130½ (*pp.*), 137 (*w.l.*) 139 (*o.a.*) × 28½ × 11½ feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,200 = 12 kts.
Boilers:	2
Oil fuel:	95 tons
Radius:	3,900 miles
Complement:	34

Notes

Both built by Hawthorn Leslie, Ltd., Hebburn-on-Tyne. Launched on 24 Jan. 1928 and 23 Dec. 1927, respectively. Both completed in Mar. 1928.

ONA — **QUERANDI**

Displacement:	615 tons
Measurement:	345 tons *gross*
Dimensions:	134½ × 30 × 11 feet
Machinery:	Triple expansion. I.H.P.: 1,300 = 12 kts.
Boilers:	2
Oil fuel:	115 tons
Radius:	2,400 miles
Complement:	34

Notes

Built by John J. Thornycroft & Co Ltd., Woolston, Southampton. Launched in 1913

ROYAL AUSTRALIAN NAVY

Naval Board

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Senator The Hon. J. G. Gorton

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Rear-Admiral A. W. R. McNicoll, C.B.E., G.M.

Deputy Chief of the Naval Staff:
Rear-Admiral T. K. Morrison, O.B.E., D.S.C.

Head of the Australian Joint Services Staff in London: and Australian Naval Representative in the United Kingdom:
Rear-Admiral O. H. Becher, C.B.E., D.S.O., D.S.C. and Bar

Deputy Australian Naval Representative, United Kingdom:
Captain I. K. Purvis

Navy Estimates

1954-55: £A48,165,000
1955-56: £A48,834,000
1956-57: £A39,065,000
1958-59: £A42,401,000
1959-60: £A42,612,000
1960-61: £A44,716,000
1961-62: £A48,019,000

Personnel

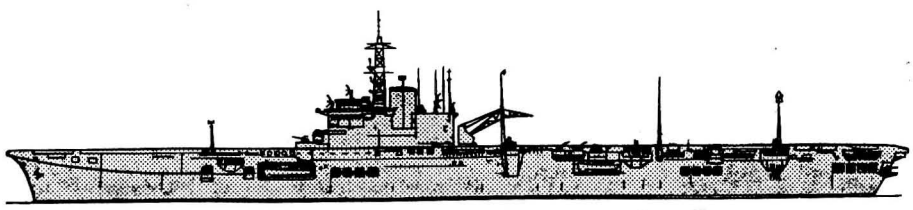
1 January 1960: 10,621 officers and ratings.
1 January 1961: 10,519 officers and ratings.
1 January 1962: 10,889 officers and ratings.
(authorised strength 12,800)

Mercantile Marine

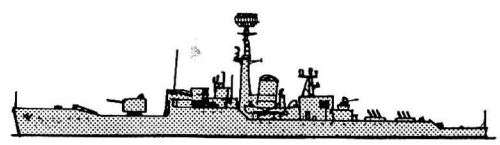
Lloyd's Register of Shipping:
314 vessels of 593,080 tons gross

Silhouettes

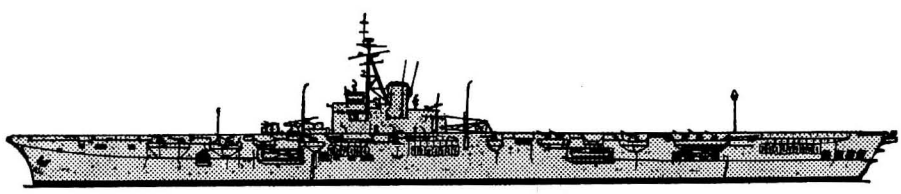
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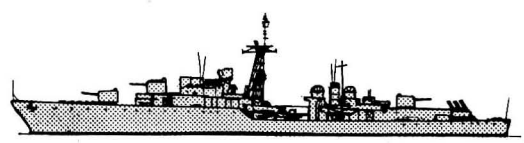
MELBOURNE



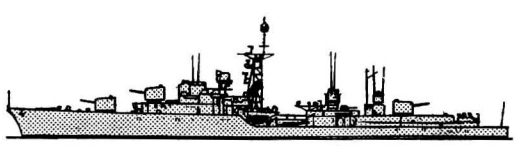
YARRA *Class*



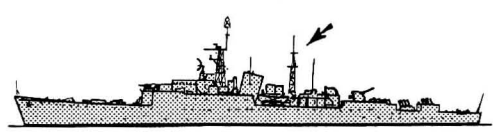
SYDNEY



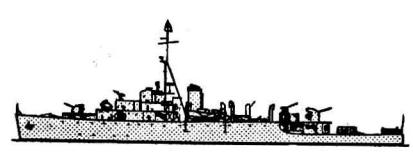
VAMPIRE, VENDETTA



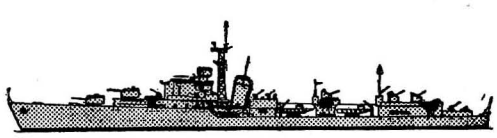
VOYAGER



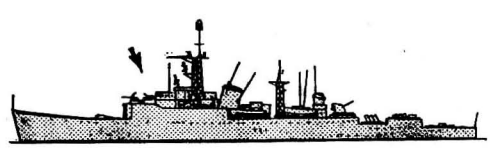
QUIBERON



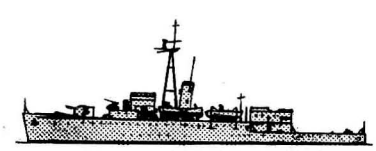
"RIVER" *Class*



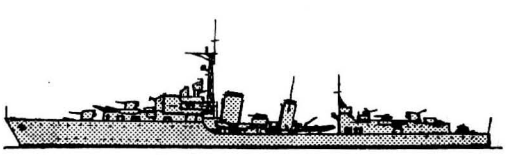
ANZAK, TOBRUK



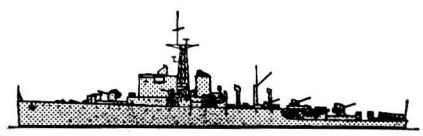
QUEENBOROUGH, QUICKMATCH



SWAN



ARUNTA,

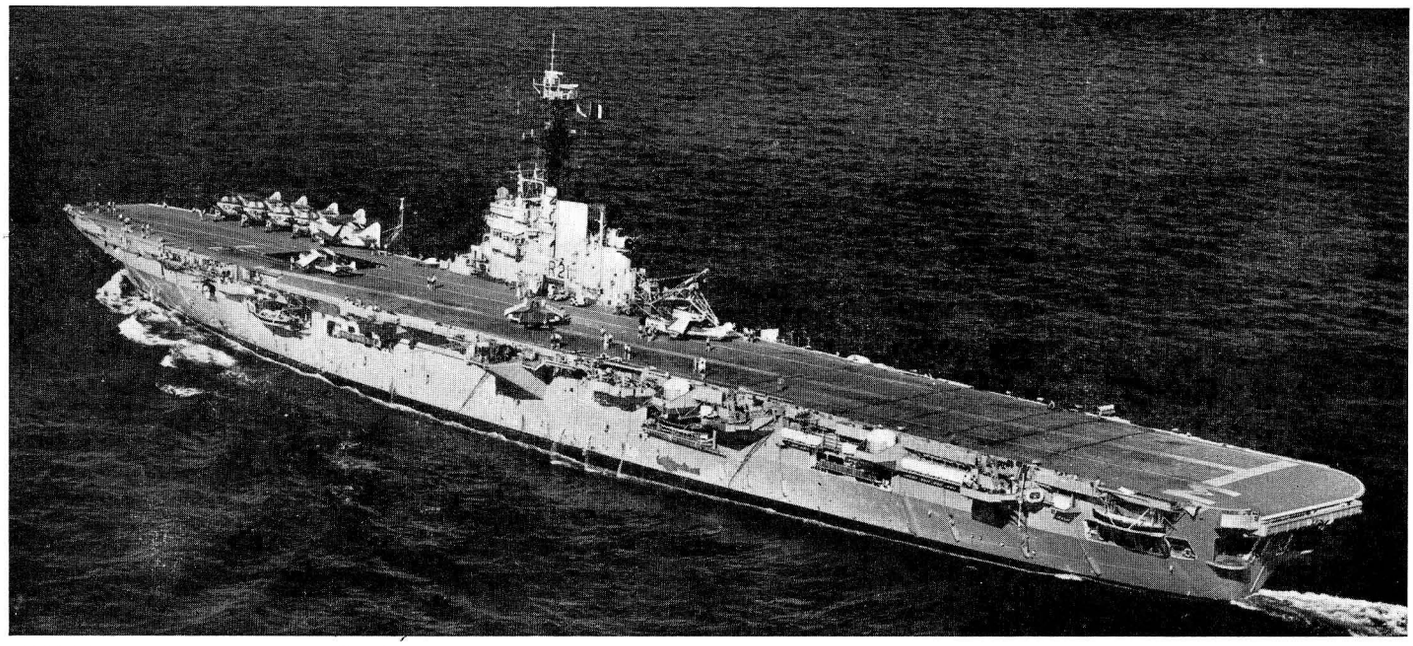


CONDAMINE *Class*



WARREGO

AIRCRAFT CARRIERS



MELBOURNE, Flagship of the Australian Fleet (port quarter aerial view) 1962, *Royal Australian Navy, Official*

1 Modified " Majestic " Class

MELBOURNE (ex-*Majestic*)

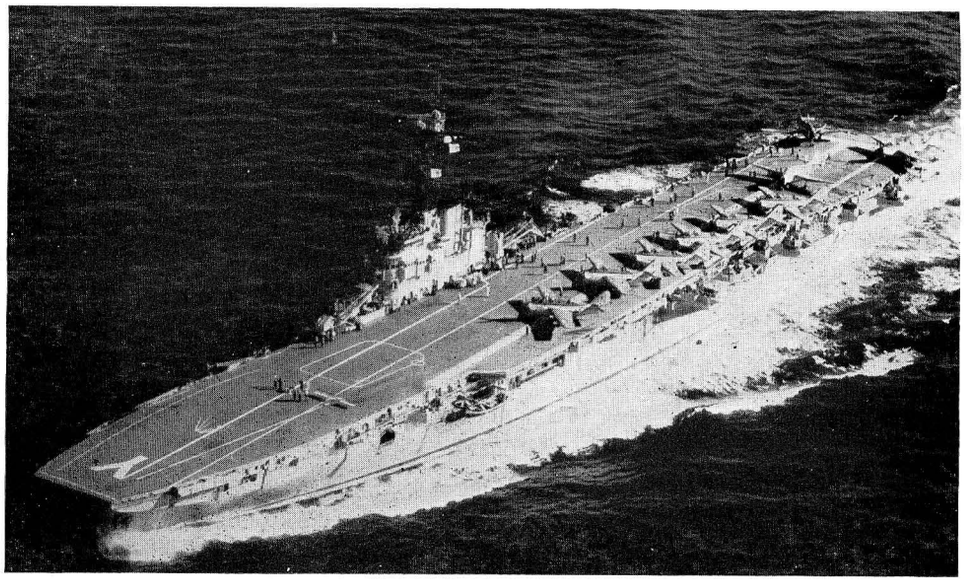
Pennant No.:	R 21
Deck Letter:	M (ex-Y)
Builders:	Vickers-Armstrongs Ltd. Barrow-in-Furness
Laid down:	15 Apr. 1943
Launched:	28 Feb. 1945
Completed:	8 Nov. 1955
Displacement:	16,000 tons *standard* (20,000 tons *full load*)
Dimensions:	Length: 650 (*w.l.*) 701½ (*o.a.*) feet. Beam (hull): 80½ feet. Width: 80 (flight deck) 126 (*o.a.*) feet (including 6 degree angled deck and mirrors). Draught: 25 feet. Hangar: 444 × 52 × 17½ feet
Guns:	25—40 mm. Bofors AA.
Aircraft:	8 Sea Venom jet fighters 17 Gannet turbo-prop anti-submarine aircraft, 2 Sycamore helicopters (see *Aircraft Notes*)
Machinery:	Parsons single reduction geared turbines. 2 shafts. S.H.P.: 40,000 = 24 kts. Sea speed 23 kts. (*max.*)
Boilers:	4 Admiralty 3-drum type
Complement:	1,209 to 1,250 (*peace*), 109 officers (120 to 130 with squadrons), 1,100 to 1,120 ratings 1,450 officers and ratings (*war*)

General Notes

At the end of the Second World War, when she was still incomplete, work on this ship was virtually brought to a standstill pending a decision as to future naval requirements. When full-scale work was resumed during 1949-55, and after her design had several times been re-cast she underwent reconstruction and modernisation in Great Britain, including the fitting of the angled deck the steam catapult and the mirror deck landing sights, and was transferred to R.A.N. on completion. She was commissioned and renamed at Barrow-in-Furness on 28 Oct. 1955, sailed from Portsmouth on 5 Mar. 1956 and arrived at Freemantle, Australia, on 23 April 1956. She became flagship of the Royal Australian Navy at Sydney on 14 May 1956. She cost £A8,309,000.

Engineering Notes

Boilers work at a pressure of 430 lb. per sq. inch and a temperature of 700 degrees Fahrenheit of superheat.



MELBOURNE (port bow oblique aerial view) Deck letter now M 1957, *Royal Australian Navy, Official*

Aircraft Notes

The Minister for the Navy stated on 9 Nov. 1960 that anti-submarine helicopters would be purchased for *Melbourne*, which would remain in commission after 1963 as an anti-submarine helicopter carrier instead of being retired to the reserve fleet.

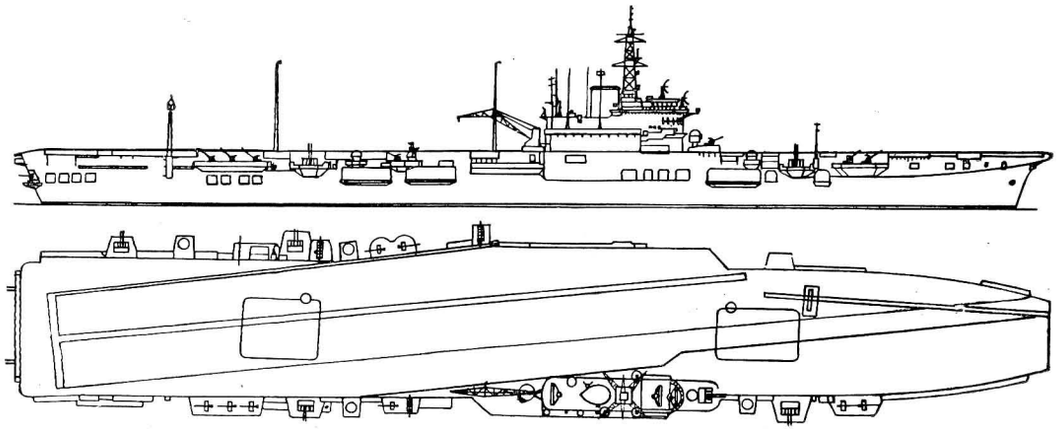
27 Westland Wessex anti-submarine helicopters have been ordered from Britain.

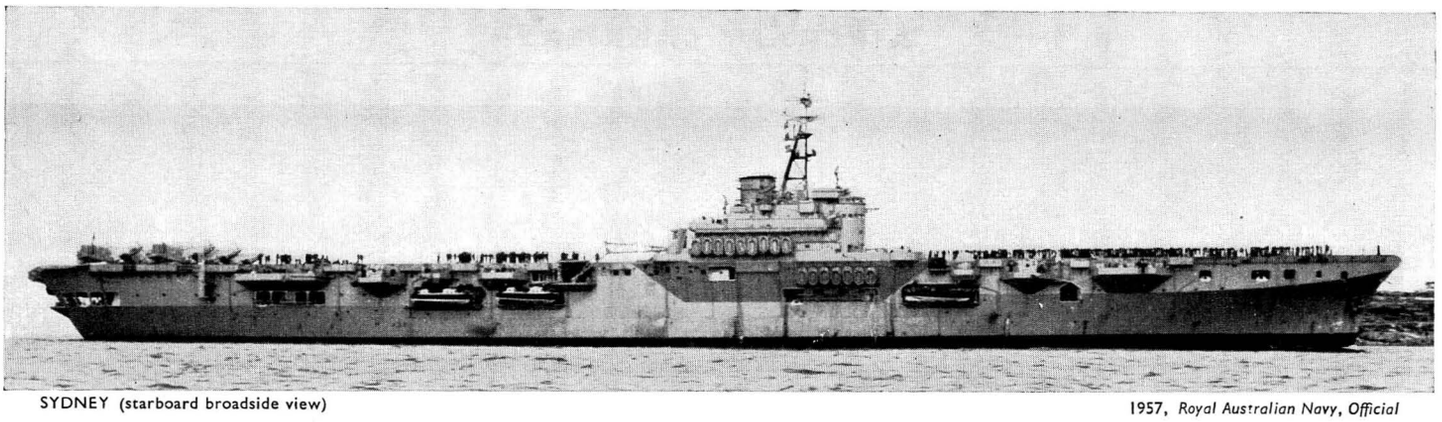
Photograph Notes

A port quarter surface view of *Melbourne* appears in the 1961-62 edition, and a large port bow surface view in the 1955-56 to 1960-61 editions.

Notes to Drawing

Port elevation and plan as converted with the angled deck. Scale: 128 ft. = 1 inch





SYDNEY (starboard broadside view) 1957, *Royal Australian Navy, Official*

1 " Majestic " Class

SYDNEY (ex-*Terrible*)

Pennant No.:	*R 17*
Deck Letter:	*S (ex-K)*
Builders:	*H.M. Dockyard, Devonport*
Engineers:	*Parsons*
Laid down:	*19 Apr. 1943*
Launched:	*30 Sep. 1944*
Completed:	*5 Feb. 1949*
Displacement:	14,380 tons *standard* (19,550 tons *full load*) officially revised figures
Dimensions:	Length: 630 (*pp*), 690¾ (flight deck), 698 (*o.a.*) feet. Beam: 80 feet Width: 112½ feet (*o.a.*). Draught. 25 feet
Guns:	Formerly mounted 30—40 mm. AA. (Bofors). Now removed
Aircraft:	Formerly carried Seafury fighters, Firefly anti-submarine and reconnaissance squadrons. Stowage capacity of 35 machines.
Machinery:	Parsons single reduction geared turbines. 2 shafts. S.H.P.: 42,000=24·8 kts.
Boilers:	4 Admiralty 3-drum type
Complement:	226 (18 officers, 208 ratings), nucleus as troop carrier. Naval Reserve will provide balance of ships company in emergency.

General Notes

This ship was handed over the Royal Australian Navy on 16 Dec. 1948, accepted for service on 5 Feb. 1949, sailed from Devonport on 12 April 1949 and arrived in Australia in May, 1949. As an operational aircraft carrier she displaced 15,740 tons *standard*, and her complement was 1,100 officers and ratings (*peace*), 1,300 (*war*).

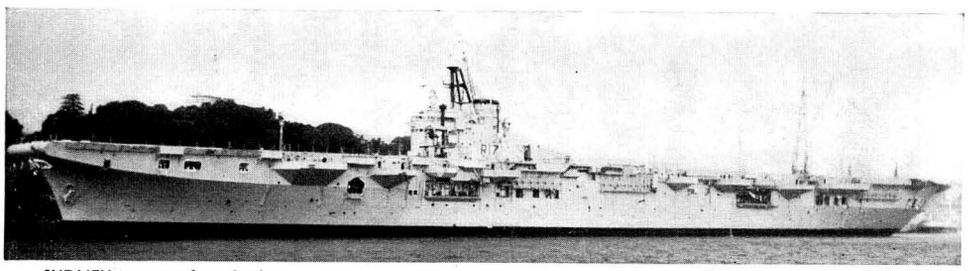
Employed as a training ship, having been placed in training status in Apr. 1955. It was officially announced on 4 Apr. 1957 that the second aircraft carrier, *Sydney*, would have a flying training role, but in Feb. 1958 it was officially stated that she was paying off and was to be immobilised. The ship was converted to a fast military transport in 1962.

Photograph Notes

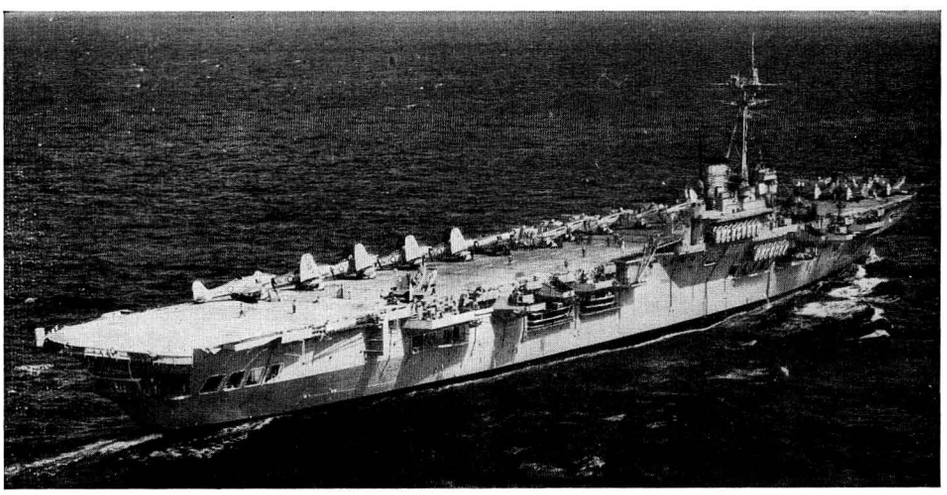
A starboard bow oblique aerial view of *Sydney* appears in the 1954-55 to 1961-62 editions and a port quarter surface view in the 1957-58 edition.

Notes to Drawing

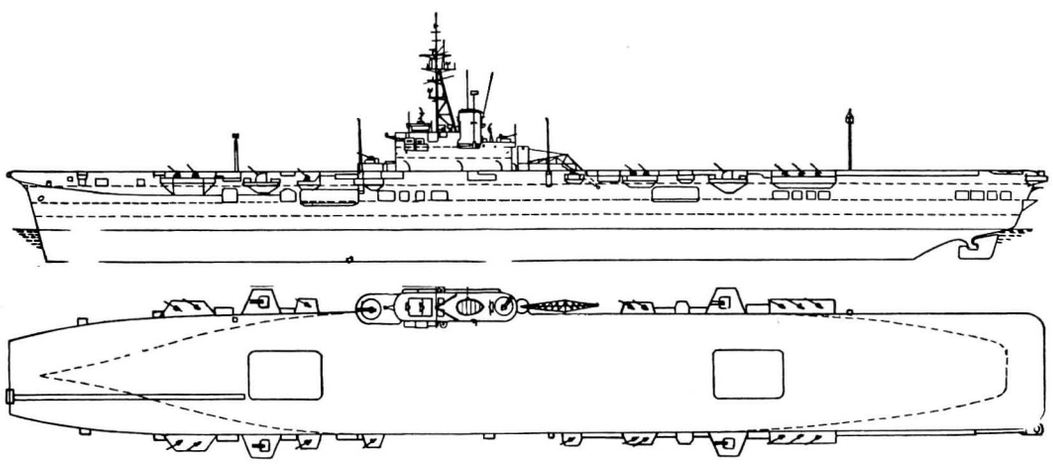
Port elevation and plan. Scale: 128 ft.=1 inch.



SYDNEY (port surface view) 1960, *courtesy, Mr. J. C. Jeremy*



SYDNEY (starboard quarter aerial view) *Added* 1958, *Royal Australian Navy, Official*



GUIDED MISSILE ARMED DESTROYERS

2 U.S. " Charles F. Adams " Class New Construction

2 *Defoe Shipbuilding Co., Bay City, Michigan*

Displacement:	3,370 tons *standard* (4,500 tons *full load*)
Dimensions:	431 (*w.l.*), 437 (*o.a.*) × 47 × 20 feet
Guns:	2—5 inch, 54 cal. single-mount, rapid fire
Guided weapons:	Twin " Tartar "surface-to-air missile launcher
A/S weapons:	Rocket launchers (ASROC), 2 triple tube torpedo launchers
Machinery:	Geared steam turbines. 2 shafts S.H.P.: 70,000=35 kts.
Boilers:	4
Complement:	354 (24 officers, 330 men)

General Notes

On 6 Jan. 1962, in Washington, United States defence representatives and Australian military officials (on behalf of the Royal Australian Navy) and executives of the Defoe Shipbuilding Company, of Bay City, Michigan, signed a £A12,863,350 contract for the construction of two guided-missile destroyers (shipbuilding cost only).

They will be the first of their kind for the Royal Australian Navy.

The ships, of the " Charles F. Adams " class, are due to be completed in 1965 and 1966.

They will be equipped to launch the " Tartar " surface-to-air missile with a range of 15 to 20 miles. They will also be armed with two main single-mount rapid-fire guns.

In addition to the " Tartar " missiles, these ships will be equipped with the very lastest in long range anti-submarine warfare weapons. These versatile ships will be used to escort amphibious forces and to support them after their landings, to work with hunter killer groups in attacking submarines and to protect vital ocean convoys.

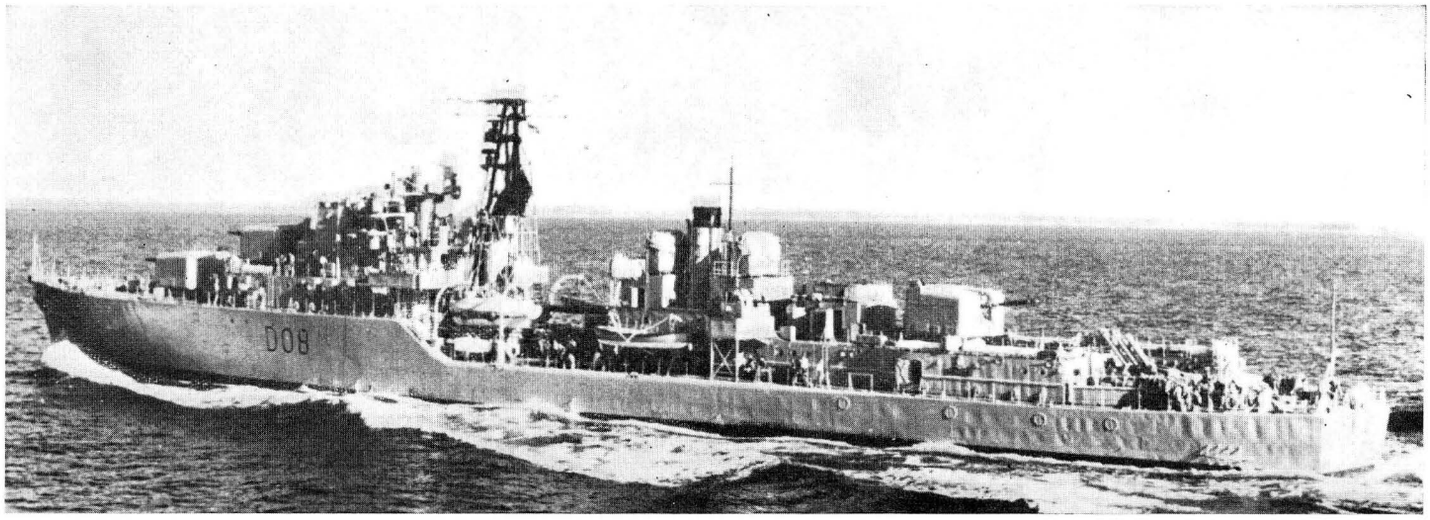
As compared with previous destroyers, the ships have greater length overall, more beam and heavier displacement. They have a new hull design with aluminium superstructures. The most recent habitability improvements have been incorporated into their construction, including air conditioning of all living spaces.

Cost: about £A6,400,000 to £A6,500,000 each (with missiles and electronics £A20,000,000 each).

Appearance Notes

For appearance of these ships see " Charles F. Adams " class in the United States section.

DESTROYERS



VENDETTA

1962, *Royal Australian Navy, Official*

3 " Daring " Class

VAMPIRE	VENDETTA	VOYAGER
Displacement:	2,800 tons *standard* (3,600 tons *full load*)	
Dimensions:	366 (*pp.*), 388½ (*o.a.*) × 43 × 12¾ (*mean*), feet (officially revised figures)	
Guns:	6—4·5 inch in twin turrets, two forward and one aft, 6—40 mm. Bofors AA.	
Tubes:	5—21 inch in quintuple mounting	
A/S weapons:	Limbo three barrelled depth charge mortar	
Machinery:	English Electric geared turbines. 2 shafts. S.H.P.: 54,000 = 34·75 kts. (*designed*) 30·5 kts. sea speed	
Boilers:	2	
Oil fuel:	584 tons	
Radius:	3,700 miles at 20 kts.	
Complement:	327 officers and ratings	

General Notes

All purpose ships, equipped for surface engagements anti-aircraft defence, and anti-submarine warfare.

These ships are the largest destroyers ever built in Australia. They were all ordered in 1946. The ships are powerfully equipped for both offensive and defensive purposes and have automatic radar steering. *Voyager* commissioned at Sydney on 12 Feb. 1957.

Design Notes

Of modern design, including all welded construction, similar to that of " Daring " class, built in Great Britain; but have been modified to suit Australian conditions. As compared with the " Daring " class destroyers built in Great Britain, these ships have five fewer torpedo tubes. On the other hand they have " Limbo " instead of " Squid " anti-submarine weapons.

Construction Notes

Voyager, the first Australian all-welded steel ship, was built in sections and assembled on the slipway from which she was launched. The superstructure is of light alloy to reduce weight and thus increase speed.

Gunnery Notes

The anti-aircraft gun batteries are laid and fired by radar.

Appearance Notes

It is officially stated that the silhouettes of *Vampire* and *Vendetta* differ from the silhouette of *Voyager*, the first and prototype ship of the class.

Photograph Notes

A large port broadside view of *Voyager* and a starboard quarter view of *Voyager* showing the Limbo three-barrelled depth charge mortar on the stern, appear in the 1957-58 to 1961-62 editions, a port bow view of *Vendetta* in the 1960-61 and 1961-62 editions, and a starboard bow view of *Voyager* in the 1957-58 to 1959-60 editions.

Class Notes

Four ships were originally projected, to be named after the R.A.N.'s famous " Scrap Iron Flotilla " of destroyers which won renown in the Mediterranean on the Tobruk ferry run and in other areas in the Second World War, but the *Waterhen* was cancelled in 1954.

Name	*Begun*	*Launched*	*Completed*
Vampire	1 July 1952	27 Oct. 1956	23 June 1959
Vendetta	4 July 1949	3 May 1954	26 Nov. 1958
Voyager	10 Oct. 1949	1 May 1952	12 Feb. 1957

Pennant No.	*Name*	*Builders*
D 11	*Vampire*	Cockatoo Island Dockyard, Sydney
D 08	*Vendetta*	H.M.A. Naval Dockyard, Williamstown
D 04	*Voyager*	Cockatoo Island Dockyard, Sydney

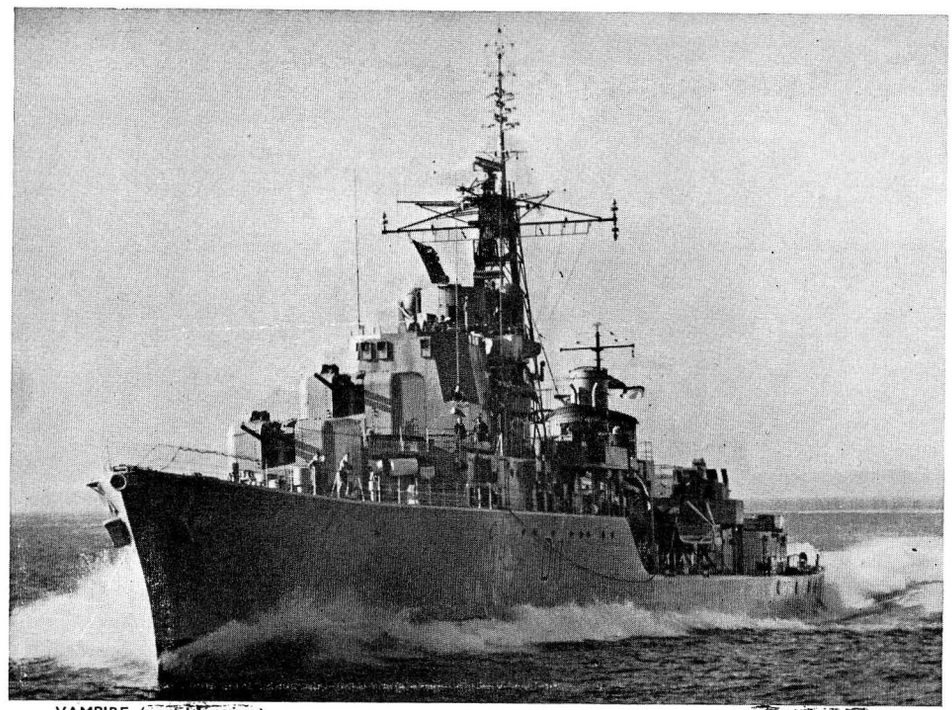
Recent Disposal of Cruiser

The light cruiser *Hobart* (ex-*Apollo*) of the " Amphion " Class, the Royal Australian Navy's sole surviving cruiser, was officially declared for disposal in 1960 and was put up for sale in Sep. 1961. (Full particulars and photograph of this ship after her modernisation refit and conversion appear in the 1957-58 to 1959-60 editions. A photograph of the *Hobart* before reconstruction appears in the 1951-52 to 1957-58 editions.)



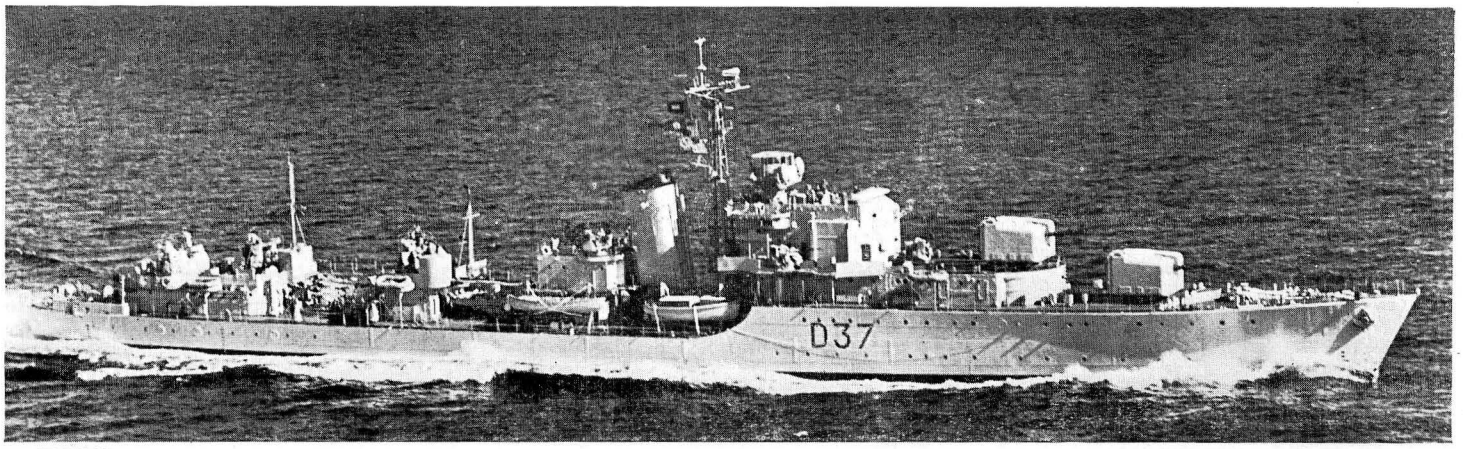
VOYAGER

1962, *Roya lAustralian Navy, Official*



VAMPIRE (port bow view)

1959, *courtesy J. C. Jeremy*



TOBRUK

Added 1957, *Royal Australian Navy, Official*

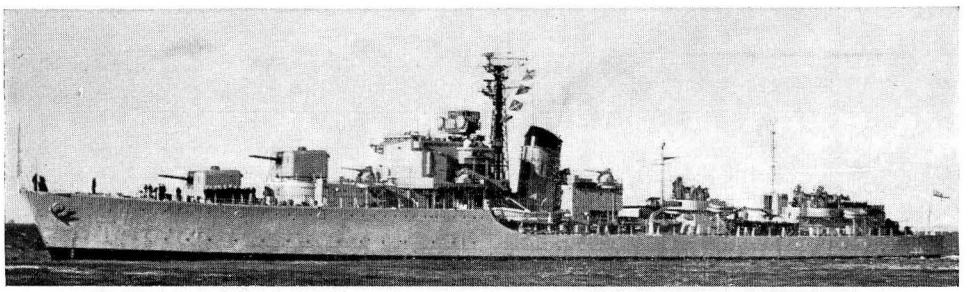
2 " Battle " Class

	ANZAC	**TOBRUK**
Name:	*Anzac*	*Tobruk*
Pennant No.:	D 59	D 37
Builders:	Williamstown Naval Dockyard	Cockatoo Docks & Eng. Co. Pty. Ltd.
Laid down:	23 Sep. 1946	5 Aug. 1946
Launched:	20 Aug. 1948	20 Dec. 1947
Completed:	22 Mar. 1951	17 May 1950

Displacement:	*Anzac* 2,440 tons *standard*, *Tobruk* 2,436 tons *standard* (3,450 tons *full load*) officially revised figures
Dimensions:	355 (*pp.*) 379 (*o.a.*) × 41 × 13½ (*mean*) feet
Guns:	4—4·5 inch 12—40 mm. AA.
Tubes:	10—21 inch
A/S weapons:	Squid triple-barrelled depth charge mortar
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 50,000 = 35.75 kts. (*designed*) 31 kts. (sea speed)
Boilers:	2 Admiralty 3-drum type
Complement:	290

General Notes

Ordered in 1945-46. Very similar to the " Battle " class fleet destroyers in the Royal Navy, but several alterations were incorporated, including secondary armament, sleeping accommodation for officers and men fore and aft, and improved mess layout and other amenities. The ships have modern radar fire control, close range Staag armament (new type of twin 40 mm. Bofors gun mounting) and the latest anti-submarine weapons. *Tobruk* joined the fleet on 17 May 1950. Cost £2,470,000. *Anzac* commenced trials on 20 Dec 1950, and commissioned on 14 Mar. 1951. Cost £2,500,000. *Tobruk* was placed in Reserve in 1960. *Anzac* is to become fleet training ship.



ANZAC

1953, *R.A.N., Official*

Gunnery Notes

Anzac has the first " Daring " type 4·5 inch guns and mountings of completely Australian manufacture (weight of each twin mount is *approx.* 50 tons). They are reported to be fully automatic, with a rate of fire of 25 rounds per minute, and an accurate range of over ten miles, firing a shell weighing 53 lb. The 4·5 inch guns for *Tobruk* were imported from Great Britain.

Appearance Notes

Both *Anzac* and *Tobruk* have a clinker screen or funnel cowl fitted to keep the bridge clear of exhaust fumes and funnel gases in a following breeze.

ANTI-SUBMARINE DESTROYERS

1 Improved " Tribal " Class

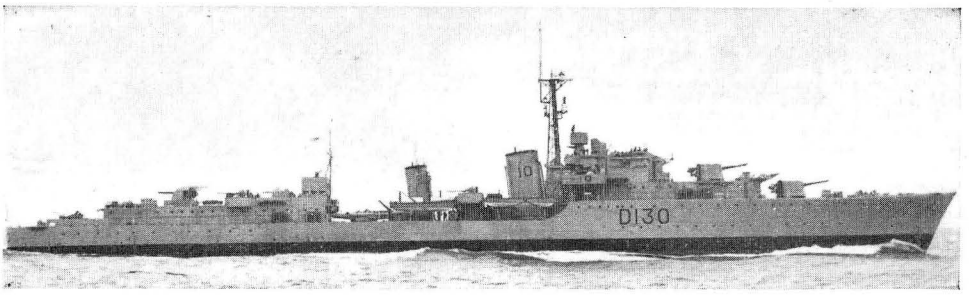
ARUNTA

Pennant No.:	D 130
Builders:	Cockatoo Docks & Engineering Co. Pty. Ltd.
Laid down:	15 Nov. 1939
Launched:	30 Nov. 1940
Completed:	3 Mar. 1942

Displacement:	2,012 tons *standard* (2,700 tons *full load*), officially revised figures
Dimensions:	355½ (*pp.*), 377½ (*o.a.*) × 36½ × 13½ (*mean*) feet
Guns:	4—4·7 inch, 2—4 inch, 8—40 mm. AA.
Tubes:	4—21 inch
A/S weapons:	Squid triple barrelled depth charge mortar aft in " Y " position
Machinery:	Parsons geared turbines. S.H.P.: 44,000 = 35 kts. (*designed*), 32 kts. sea speed
Boilers:	3 Admiralty 3-drum type
Complement:	293

General Notes

Arunta underwent a large-scale refit and modernisation, her guns being removed and her deckhouse aft extended towards the stern. She was re-armed with different pattern guns and A/S weapons and reclassified as an anti-submarine destroyer. She was placed in reserve in 1957.

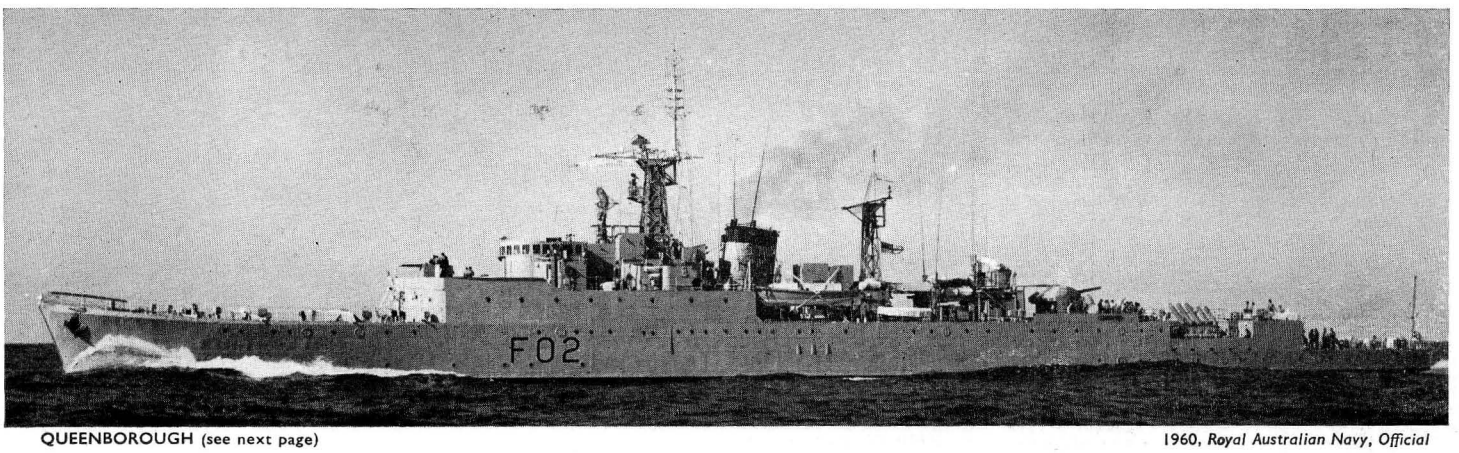


ARUNTA

Royal Australian Navy, Official

Recent Disposals

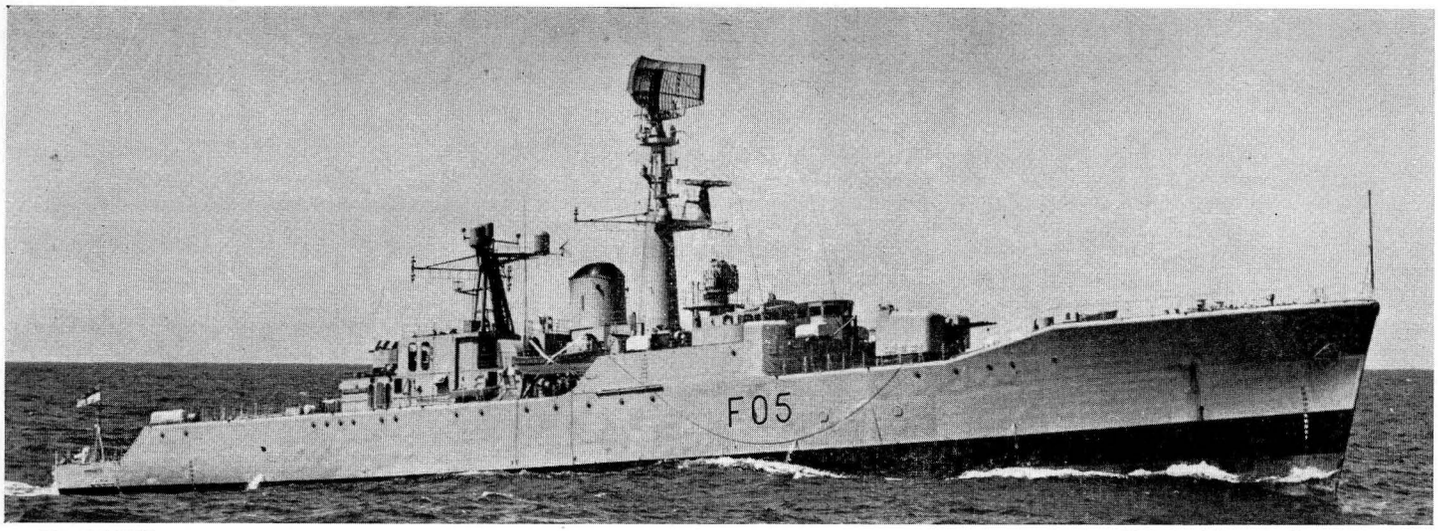
Of this class, of originally three ships, *Bataan* was declared for disposal in 1957, and has since been scrapped, and *Warramunga* was declared for disposal early in 1962.



QUEENBOROUGH (see next page)

1960, *Royal Australian Navy, Official*

ANTI-SUBMARINE FRIGATES



PARRAMATTA

1962, *Royal Australian Navy, Official*

4 " Yarra " Class. Type 12

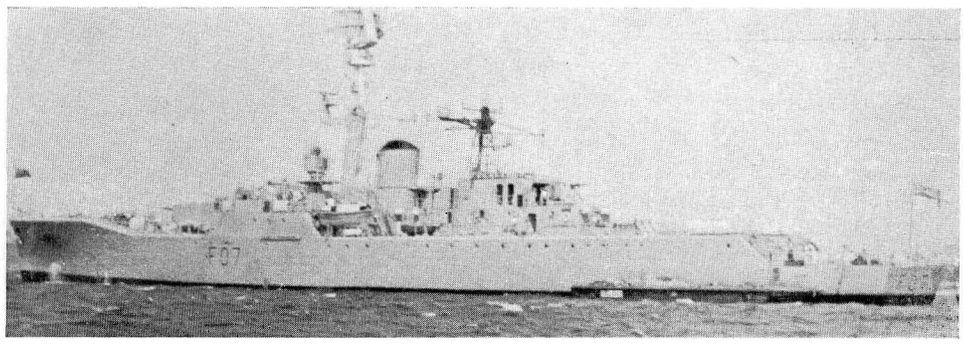
DERWENT
PARRAMATTA
STUART
YARRA

Displacement:	2,000 tons *standard* (2,600 tons *full load*) officially revised figures
Dimensions:	360 (*pp.*), 370 (*o.a.*) × 41 × 12¾ (*mean*) feet
Guns:	2—4·5 inch d.p., 2—40 mm. AA.
Guided Missiles:	Provision for " Seacat " close range surface-to-air weapons to replace 40 mm. guns (see *Notes*)
A/S weapons:	2 Limbo three barrelled depth bomb mortars
Machinery:	Geared turbines. 2 shafts. S.H.P.: over 30,000=over 27 kts. (officially revised figures)
Boilers:	2 Babcock & Wilcox

Notes

The design of these ships is generally similar to that of the " Whitby " class anti-submarine frigates in the Royal Navy, but it was modified by the Royal Australian Navy to incorporate improvements in equipment and habitability. Mast differs from that in " Whitby " class frigates in the Royal Navy and is more like mast in new Canadian destroyer escorts and mast in new British-built Chilean destroyers. *Derwent* and *Stuart* will be the first ships of the Royal Australian Navy to be equipped with guided missiles.

It was announced in Aug. 1950 that six new fast anti-submarine frigates were to be laid down, three to be built at Cockatoo Island Dockyard, Sydney, and three at the Naval Dockyard, Williamstown; but only four were proceeded with, two at each yard. Although they are called anti-submarine frigates, they are actually more like destroyers, in which the capacity for anti-submarine operations was the principal factor in determining the provision o fweapons and equipment. Cost nearly £A5,000,000 each.



YARRA

1962, *courtesy Mr. J. C. Jerremy*

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 22	*Derwent*	Williamstown Naval Dockyard, Melbourne	17 Apr. 1961	End 1963
F 05	*Parramatta*	Cockatoo Island Dockyard, Sydney	31 Jan. 1959	July 1961
F 21	*Stuart*	Cockatoo Island Dockyard, Sydney	8 Apr. 1961	Oct. 1963
F 07	*Yarra*	Williamstown Naval Dockyard, Melbourne	30 Sep. 1958	July 1961

FAST ANTI-SUBMARINE FRIGATES (ex-*Destroyers*)

3 " Queenborough " Class (Fully Converted from Destroyers)

QUEENBOROUGH
QUIBERON
QUICKMATCH

Displacement:	2,020 tons *standard* (2,700 tons *full load*)
Dimensions:	358¾ × 35¾ × 13¼ (*mean*) feet
Guns:	2—4 inch (twin-mount), 2—40 mm., Bofors AA.
A/S weapons:	2 Limbo three-barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts S.H.P.: 40,000=31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Complement:	220 (war)

General Notes

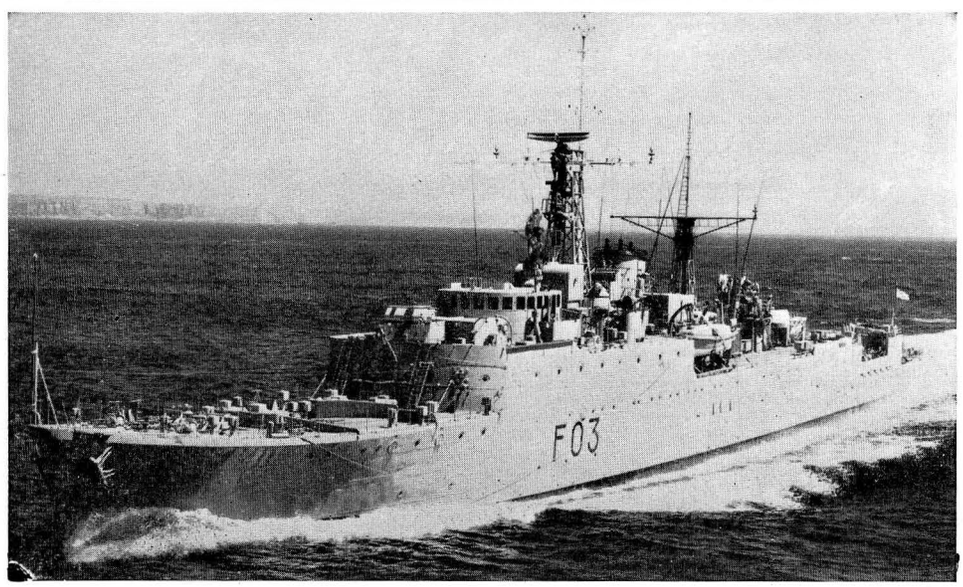
Formerly in the Royal Navy. Lent to the Royal Australian Navy in 1943 (*Quiberon, Quickmatch*) and 1945 (*Quadrant, Quality, Queenborough*). Transferred permanently June 1950 when it was announced they would all be converted to fast anti-submarine frigates similar to *Relentless* and *Rocket* in Great Britain section, the conversions being effected at Cockatoo Island and Williamstown dockyards, but only four of the ships were reconstructed (*Quality* was not converted, see *Recent Disposal* note). *Quadrant* completed conversion and re-commissioned 16 July 1953 (now discarded), *Queenborough* 7 Dec. 1954, *Quickmatch* 23 Sep. 1955, *Quiberon* recommissioned on 18 Dec. 1957 (trials Sep. 1957).

Photograph Notes

A photograph of *Quadrant* appears on the 1954-55 to 1957-58 editions, of *Quiberon* in the 1958-59 and 1959-60 editions, and *Quickmatch* in the 1957-58 to 1961-62 editions. A larger photograph of *Queenborough* appears on the previous page.

Recent Disposal

Of the five ships of this class, *Quality*, the only one remaining unconverted from a destroyer into a fast anti-submarine frigate, was declared for disposal in 1957, and *Quadrant* was declared for disposal early in 1962.



QUIBERON

Added 1962 *Royal Australian Navy Official*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 02	*Queenborough*	Swan, Hunter & Wigham Richardson Ltd., Wallsend	6 Nov. 1940	16 Jan. 1942	10 Dec. 1942
F 03	*Quiberon*	J. Samuel White & Co. Ltd., Cowes, Isle of Wight	14 Oct. 1940	31 Jan. 1942	22 July 1942
F 04	*Quickmatch*	J. Samuel White & Co. Ltd., Cowes, Isle of Wight	6 Feb. 1941	11 Apr. 1942	30 Sep. 1942

FRIGATES

3 Australian " River " Class

BARCOO **DIAMANTINA** **GASCOYNE**

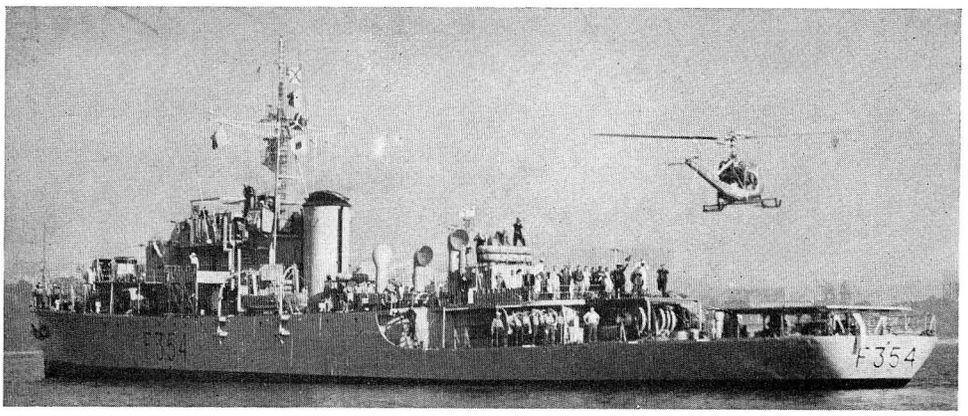
Displacement:	1,489 tons *standard*, *Barcoo* 1,477 tons *standard* (2,200 tons *full load*)
Dimensions:	283 (*pp.*), 301½ (*o.a.*) × 36⅔ × 12⅞ (*mean*) feet
Guns:	2—4 inch (only one mounted at present), 2—40 mm. AA.
A/S weapons:	2 squids (triple barrelled) in " B " position (not at present fitted)
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 20 kts.
Boilers:	2 Admiralty 3-drum type
Complement:	183

General Notes
All are of " River " design. *Barcoo*, *Diamantina* and *Gascoyne* were converted in 1959-60 for survey and oceanographic research duties. The conversion included the provision of special laboratories and the fitting of *Gascoyne* with a helicopter platform. *Lachlan*, employed on surveying duties, is loaned to the Royal New Zealand Navy for hydrographic work and oceanographic research.

Gunnery Notes
Forward 4-inch gun is in " A " position with 40 mm. gun superimposed

Photograph Notes
Photograph of *Macquarie* in the 1953-54 to 1957-58 editions. Photograph of *Hawkesbury* in the 1954-55 to 1959-60 editions.

Recent Disposals
Of four sister ships *Burdekin* and *Hawkesbury* were officially declared for disposal in 1960, and *Barwon* and *Macquarie* arly in 1962.



GASCOYNE (converted for survey, with helicopter platform) 1960, *Royal Australian Navy, Official*

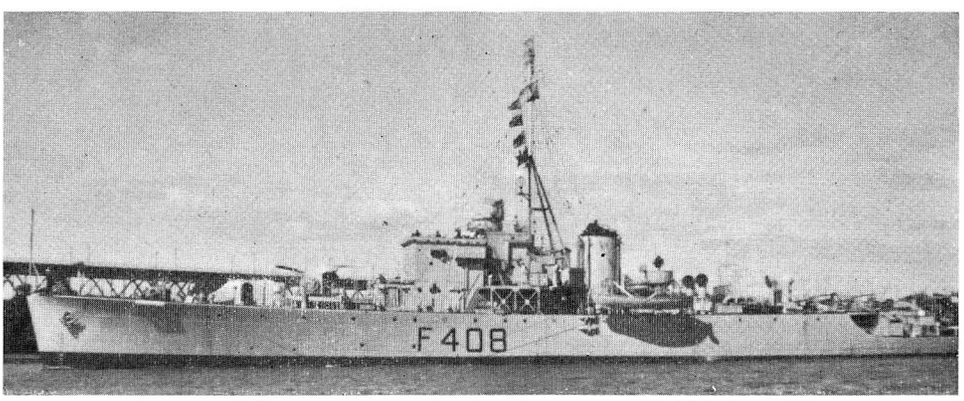
Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 175	*Barcoo*	Cockatoo Docks and Engineering Co.	21 Oct. 1942	26 Aug. 1943	17 Jan. 1944
F 377	*Diamantina*	Walkers Ltd., Maryborough, Queensland.	12 Apr. 1943	6 Apr. 1944	27 Apr. 1945
F 354	*Gascoyne*	Mort's Dock and Engineering Co., Sydney	4 June 1942	20 Feb. 1943	20 Dec. 1943

1 Australian " Bay " Type

CULGOA (ex-*Macquarie*)

Pennant No.:	F 408
Builders:	Williamstown Naval Dockyard, Melbourne
Laid down:	15 July 1943
Launched:	22 Sep. 1945
Completed:	17 Dec. 1946
Displacement:	1,537 tons *standard* (2,187 tons *full load*) officially revised figures
Dimensions:	283 (*pp.*), 301 (*o.a.*) × 36½ × 12¾ (*mean*) feet
Guns:	4—4 inch, 5—40 mm. AA.
A/S weapons:	1 hedgehog, 4 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 19 kts.
Boilers:	2 Admiralty 3 drum type
Complement:	177

General Notes
This ship is of an improved " River " class design, or an Australian version of the " Bay " class. She was refitted with a lattice mast by 1955.



CULGOA *Added* 1962, *courtesy Mr. K. F. Caldwell*

Photograph Notes
A photograph of *Murchison* appears in the 1955-56 to 1957-58 editions, and of *Shoalhaven* in the 1955-56 to 1961-62 editions.

Recent Disposals
Of three sister ships *Condamine* was officially declared for disposal in 1960, and *Murchison* and *Shoalhaven* early in 1962.

2 " Swan " Class (Ex-*Sloops*)

SWAN **WARREGO**

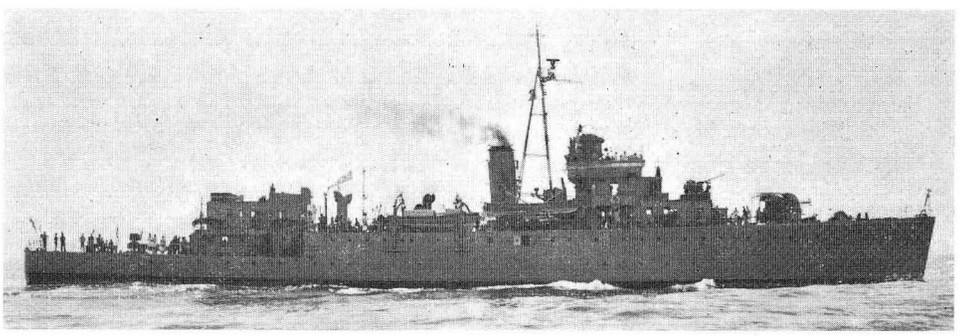
	Swan	*Warrego*
Name:	*Swan*	*Warrego*
Pennant No.:	F 74	A 312
Builders:	Cockatoo Docks & Engineering Co. Pty. Ltd.	Cockatoo Docks & Engineering Co. Pty. Ltd.
Laid down:	1 May 1935	15 May 1939
Launched	28 Mar. 1936	10 Feb. 1940
Completed	10 Dec. 1936	21 Aug. 1940

Displacement:	*Swan* 1,050 tons *standard*, *Warrego* 1,094 tons *standard* (1,523 tons *full load*) officially revised figures
Dimensions:	250 (*pp.*), 263 (*w.l.*), 266 (*o.a.*) × 36 × 10 (*mean*) feet
Guns:	2—4 inch, 1—40 mm AA. (*Warrego* now mounts 1—40 mm. only.)
Machinery:	2 sets Parsons geared turbines. S.H.P.: 2,200 = 16·85 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	340 tons
Complement:	160

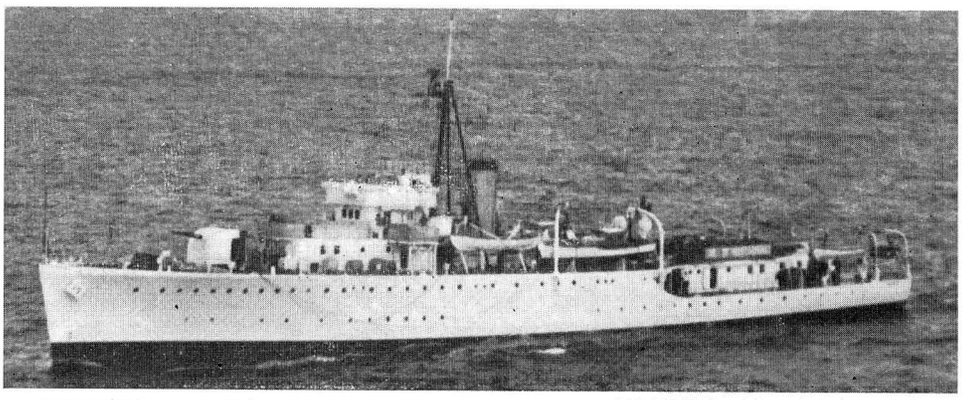
General Notes
Formerly classed as Sloops. *Warrego* is employed on Surveying service but retains armament for training purposes. *Swan* was refitted in 1955 as a training ship for cadet-midshipmen passing out of the R.A.N. College.
Second World War losses of this type were *Parramatta* and *Yarra*.

Submarine Notes
Reported from Canberra on 29 Sep. 1960 that Australia is expected to purchase four modern British submarines costing between £3,000,000 and £4,000,000 each for the Royal Australian Navy.
Submarines of the Fourth Submarine Squadron of the Royal Navy are based at Sydney, Australia, for anti-submarine training.

Ocean Minesweeper Notes
The last four ocean minesweepers of the " Bathurst " class (survivors of a group of 32—four of which were given to New Zealand), *Colac* (now a tank cleaning vessel), *Mildura* (stationary training ship for naval reservists at Brisbane), *Wagga* (offered for sale early in 1962) and *Castlemaine* (immobile training ship at Flinders Naval Depot) were all officially deleted from the list early in 1962 (see 1961-62 edition for names and disposals of remaining ships).

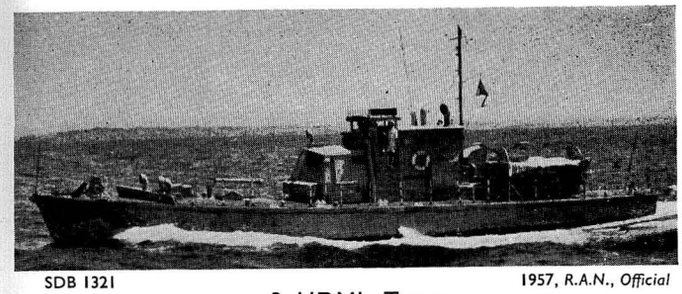


SWAN as cadets' training ship) *Added* 1962, *Royal Australian Navy, Official*



WARREGO (as survey ship) *Added* 1962, *Royal Australian Navy, Official*

SEAWARD DEFENCE BOATS



SDB 1321 — 1957, *R.A.N., Official*

3 HDML Type

SDB 1321 **SDB 1324** **SDB 1325**

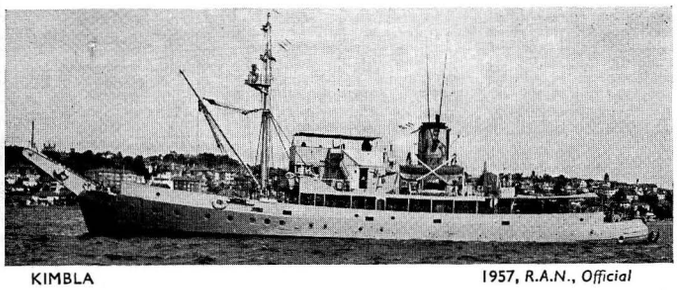
Displacement:	47 tons *standard* (58 tons *full load*)
Dimensions:	80¼ (*o.a.*) × 16⅛ × 5½ feet
Guns:	1—3 pdr., 1—40 mm. AA.
Machinery:	2 Buda diesels. 2 shafts. B.H.P.: 390 (*max.*) = 11 kts.
Complement:	12

General Notes

Originally known as Harbour Defence Motor Launches (HDML) and afterwards as Seaward Defence Motor Launches (SDML). 1321 was modified after the War by the addition of a two berth C.O.'s cabin and covered bridge in place of the open bridge on other boats of the class. *SDML* 1322 was officially stricken off 1953. Remaining four were redesignated Seaward Defence Boats (*SDB*) in 1957. SDB 1327 was officially stricken from the list in 1960.

SDB 1323, 1326, 1328 and 1329 were returned to Australia in 1958 from Hong Kong where they had been lent to the Royal Navy, and were transferred to the Philippine Navy in 1959.

TRIALS VESSEL



KIMBLA — 1957, *R.A.N., Official*

KIMBLA

Displacement:	750 tons *standard* (1,002 tons *full load*) officially revised figures
Dimensions:	150 (*pp.*), 179 (*o.a.*) × 32 × 12 (*mean*) feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Machinery:	Triple expansion. Oil fuel. 10 kts.
Complement:	32

General Notes

Built as a boom defence vessel by Walkers Ltd., Maryborough. Laid down on 4 Nov. 1953. Launched 23 Mar. 1956. Completed on 27 Mar. 1956. Converted to a Trials Vessel in 1959.

BOOM DEFENCE VESSELS

3 " Kangaroo " Class

KANGAROO **KARANGI** **KOALA**

Displacement:	768 tons *standard* (971 tons *full load*)
Dimensions:	150 (*pp.*), 165 (*o.a.*) × 32½ × 11¾ (*mean*) feet
Guns:	1—40 mm. AA.
Machinery:	Triple expansion. I.H.P.: 914 = 11 kts.
Boilers:	2
Oil fuel:	151 tons
Complement:	31

General Notes

Boom defence working and mooring vessels. Similar to the " Bar " type boom defence vessels in the Royal Navy. All in reserve.

A photograph of *Karangi* appears in the 1957-58 (Diamond Jubilee) edition.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
P 80	*Kangaroo*	15 Nov., 1939	4 May 1940	26 Sep. 1940
P 282	*Karangi*	5 Feb. 1941	16 Aug. 1941	22 Dec. 1941
P 69	*Koala*	21 June 1939	4 Nov. 1939	7 Feb. 1940

KOOKABURRA

Displacement:	556 tons *standard* (690 tons *full load*)
Dimensions:	120 (*pp.*), 135 (*o.a.*) × 26½ × 12¼ feet
Guns:	1—40 mm. AA.
Machinery:	Triple expansion. I.H.P.: 450 = 9·5 kts.
Boilers:	1 cylindrical
Oil fuel:	82 tons

General Notes

Built at Cockatoo Island Dockyard, Sydney. Launched on 20 Oct. 1938. This smaller boom working vessel was similar to the now scrapped "Net" class boom defence vessels formerly in the Royal Navy. Now in reserve.

SURVEY SHIP

1 New Construction

Displacement:	2,000 tons *standard* (2,300 tons *full load*)
Dimensions:	284½ × 42 feet
Guns:	2—40 mm. Bofors AA. (single mountings)
Aircraft:	1 helicopter
Machinery:	Diesel-electric with twin screws

Notes

It was announced on 9 Nov. 1960 that this new survey ship will be built in Australia. The order for construction has been placed with the State Dockyard, Newcastle and under the contract the ship should be completed in Sep. 1963.

SURVEY SHIP (SMALL)

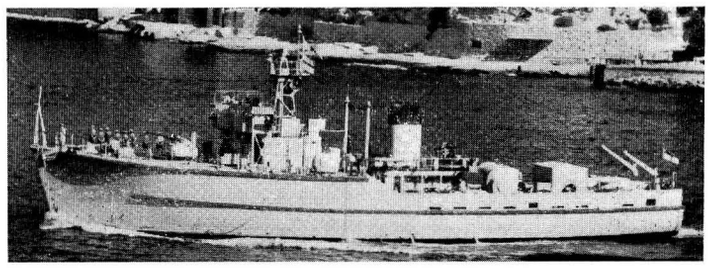
PALUMA

Displacement:	340 tons (officially revised figures)
Dimensions:	120 × 24 × 6¾ (*mean*) feet
Machinery:	Diesel. Speed = 9·5 kts.

Notes

A motor stores lighter of war construction converted into a small survey vessel in 1958.

COASTAL MINESWEEPERS



ALCASTON — *Added* 1962, *A. & J. Pavia*

6 "Ton" Class

ALCASTON **JACKTON** **SOMERLEYTON**
CHEDISTON **SINGLETON** **SWANSTON**

Displacement:	360 tons *standard* (425 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28¾ × 8¼ feet
Guns:	1—40 mm. Bofors AA. forward, 2—20 mm. Oerlikon AA. aft
Machinery:	Diesels. 2 shafts. B.H.P.: 3,000 = 15 kts. (*max.*)

Notes

It is officially stated that six " Ton " class coastal minesweepers have been purchased " off the shelf " from the British Admiralty, and are being modified in United Kingdom dockyards to suit Australian conditions. The ships are expected to arrive in Australia before the end of 1962.

SEA AIR RESCUE LAUNCHES

4 "Air" Class

AIR CHIEF SAR 918 **AIR SPRITE** SAR 910 **AIR TRAIL** SAR 916
AIR MASTER SAR 919

Displacement:	23½ tons *standard* (30 tons *full load*)
Dimensions:	63 × 15¼ × 4 feet
Machinery:	2 Hall Scott Defender engines. 2 shafts. B.H.P.: 1,260 = 33·5 kts.
Radius:	200 miles

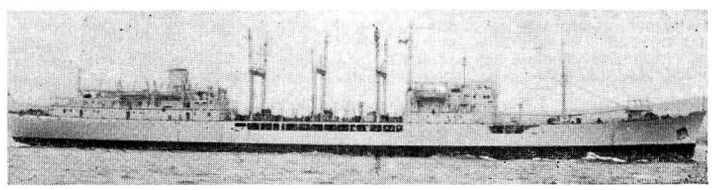
General Notes

These launches of the R.A.N. Search and Rescue Unit at Jervis Bay are fitted with radio and scientific equipment.

A photograph of *Air Trail* appears in the 1957-58 (Diamond Jubilee) edition.

A sister boat, *Air Mercy*, SAR 925, was officially stricken from the list in 1960, and *Air Speed* was withdrawn from service in 1960. *Air sprite* is in reserve.

FAST FLEET REPLENISHMENT SHIP



TIDE AUSTRAL — *Added* 1962, *Official*

TIDE AUSTRAL

Displacement:	15,000 tons *standard* (26,000 tons *full load*)
Measurement:	17,600 tons *deadweight*, 11,200 tons *gross*
Dimensions:	550 (*pp.*), 583 (*o.a.*) × 71 × 32 (*max.*) feet
Machinery:	Double reduction geared turbines. S.H.P.: 15,000 = 17 kts.

Notes

Ordered through British Admiralty. Built by Harland & Wolff, Ltd., Belfast. Launched, 1 Sep. 1954, completed March 1955. Sister ship of the " Tide " Class Fast Fleet Replenishment Ships in the Royal Navy. Lent to Admiralty until Sep. 1962, when she will be commissioned by the R.A.N. for employment on the Australian station.

GENERAL PURPOSE VESSELS

BANKS **BASS**

Dimensions:	90 (*pp.*), 101 (*o.a.*) × 22 × 8 (*mean*) feet
Machinery:	Diesel. Speed = 10 kts.
Complement:	16

Notes

" Explorer " class. Of all steel construction *Banks* is specially fitted for fishery surveillance duties. *Bass* is specially fitted for surveying.

GPV 957 **GPV 961** **GPV 962 (WALRUS)**
GPV 958 **GPV 968 (TALLAROOK)**

Dimensions:	71 (*pp.*), 75 (*o.a.*) × 18 × 7¼ (*mean*) feet
Machinery:	Diesel. Speed = 9 kts.

General Notes

Wooden General Purpose Vessels for Fleet tender and miscellaneous duties. Crew 8.

GPV 948 (*Limicola*), GPV 949 (*Larus*), GPV 951 (*Tringa*), GPV 952 (*Sterna*), GPV 953, GPV 954, GPV 956, GPV 959, GPV 960, GPV 963, GPV 964, GPV 965, GPV 966 (*Brolga*) and GPV 967 (*Jabiru*) were officially deleted from the list in 1960.

WARREEN

Dimensions:	72½ (*pp.*), 82 (*o.a.*) × 19 × 8 (*mean*) feet
Machinery:	Diesel

Notes

This vessel is fitted out for training purposes, it was officially stated in 1960. Crew 15.

FLEET TUGS

SPRIGHTLY

Displacement:	570 tons *standard* (800 tons *full load*)
Dimensions:	143 × 34½ × 12¾ (*mean*) feet
Guns:	3—40 mm. AA.
Machinery:	Two diesels and two electric motors. B.H.P.: 1,950 = 12 kts.
Oil fuel:	186 tons
Complement:	43

General Notes

Built at Orange Texas U.S.A. Laid down on 6 June 1942, launched on 7 Aug. 1942 and completed on 23 Nov. 1942. Engines fully controllable from bridge. Now in reserve. Salvage Board tug *Tancred* is sister ship. *Reserve* was declared for disposal in 1961.

BRONZEWING DT 932 **EMU DT 931**

Displacement:	250 tons
Dimensions:	98¾ (*o.a.*) × 21¼ × 7¾ (*mean*) feet
Machinery:	Diesel. 1 shaft. B.H.P.: 480 = 9·5 kts.

Notes

Both built by Mort's Dock Sydney. Launched on 2 Feb. 1946 and 25 June 1946, respectively. *Emu* is in reserve. *Mollyhawk*, DT 933 was removed from the list in 1958.

BELGIUM

Administration

The Marine Militaire (Force Navale) is attached to the Ministry of National Defence.

Chief of Naval Staff:
Commodore L. Petitjean.

Naval, Air and Military Attaché in London:
Colonel Y. van Strydonck de Burkel.

Personnel

1962: 5,000 officers and men

Mercantile Marine

Lloyd's Register of Shipping:
206 vessels of 713,197 tons *gross*

The Marine de l'Etat (State Marine) is under the Ministry of Communications

COASTAL ESCORTS (*Escorteurs Cotiers*)

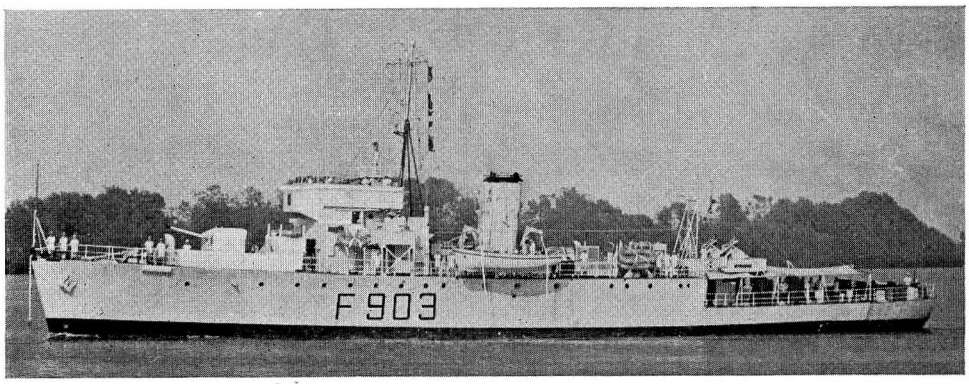
4 Ex-British "Algerine" Class

A. F. DUFOUR (ex-H.M.C.S. *Winnipeg*)
DE BROUWER (ex-H.M.S. *Spanker*)
DE MOOR (ex-H.M.S. *Rosario*)
G. LECOINTE (ex-H.M.C.S. *Wallaceburg*)

Displacement: 1,040 tons (1,335 tons *full load*)
Dimensions: 213½ (*pp.*), 226⅜ (*o.a.*) × 35½ × 10 to 11½ (*max.*) feet
Guns: 1—4 inch, 4—40 mm. AA. (8—20 mm. AA. in *A. F. Dufour* and *G. Lecointe*)
A/S Weapons: 4 D.C.T. (1 Hedgehog in *A. F. Dufour* and *G. Lecointe*)
Machinery: Geared turbines. (Triple expansion in *A. F. Dufour* and *G. Lecointe*).2 shafts. S.H.P.: 2,000=16 kts.
Boilers: 2, of 3-drum type
Oil fuel: 235 tons
Radius: 4,000 miles at 10 kts.
Complement: 101

Pennant No.	*Name*	*Transferred*
F 903	*A. F. Dufour*	7 Aug. 1959
F 904	*de Brouwer*	25 Feb. 1953
F 905	*de Moor*	13 Jan. 1953
F 901	*G. Lecointe*	31 July 1959

Name	*Begun*	*Launched*	*Completed*
A. F. Dufour		19 Sep. 1942	1943
de Brouwer	22 Sep. 1942	20 Apr. 1943	9 July 1943
de Moor	22 Sep. 1942	3 Apr. 1943	20 Aug. 1943
Lecointe		17 Dec. 1942	1943



A. F. DUFOUR — 1961, *Belgian Navy, Official*

Notes

Formerly British ocean minesweepers. Officially reclassified as coastal escorts in 1959. *De Brouwer* and *De Moor* were built by Harland and Wolff, Ltd., Belfast, and *A. F. Dufour* and *G. Lecointe* by Port Arthur Shipbuilding Co., Ontario. *De Brouwer* and *De Moor* are tropicalised for service in African waters *A. F. Dufour* (ex-*Fancy*) was relegated to a stationary training ship in 1959 and renamed *Nzadi*, but she was removed from the Belgian Fleet in 1960. *Georges Lecointe* (ex-*Cadmus*) was scrapped in 1959, and *Jan Van Haverbeke* (ex-*Ready*) in 1960. The present *A. F. Dufour* (ex-*Winnipeg*) and *G. Lecointe* (ex-*Wallaceburg*) were transferred from Canada at Esquimalt, B.C. and Sydney, Nova Scotia, on 7 Aug. 1959 and 31 July 1959, respectively. *Adrien de Gerlache* (ex-*Liberty*) was reclassified as an auxiliary (A 954) in 1960 (*batiment logistique*).

OCEAN MINESWEEPERS (Rated as *Dragueurs de Haute Mer*)

5 U.S. MSO (ex-AM) Type 498

ARTEVELDE (ex-*MSO* 503, ex-*AM* 503)
BREYDEL (ex-*MSO* 504, ex-*AM* 504)
F. BOVESSE (ex-*MSO* 516, ex-*AM* 516)
G. TRUFFAUT (ex-*MSO* 515, ex-*AM* 515)
VAN HAVERBEKE (ex-*MSO* 522)

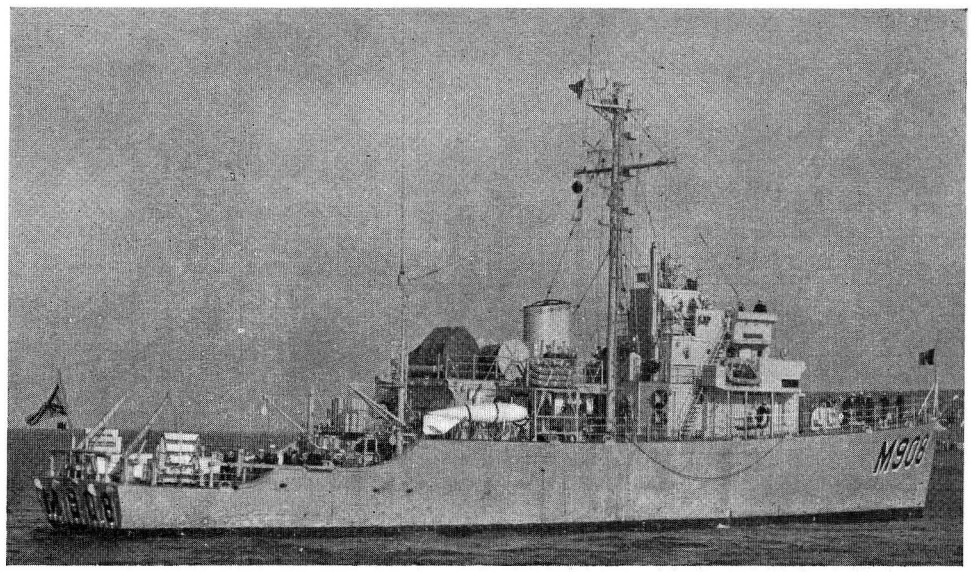
Displacement: 720 tons *light* (780 tons *full load*)
Dimensions: 165 (*w.l.*) 172½ (*o.a.*) × 35 × 9½ (11 *max.*) feet
Guns: 1—40 mm. Bofors AA.
Machinery: 2 General Motors diesels. 2 shafts. B.H.P.: 1,600=14 kts. (*max*)
Oil fuel: 50 tons
Range: 2,400 miles at 12 kts.
Complement: 72

Notes

U.S *AM* 498 class minesweepers. Wooden hulls and non-magnetic equipment. Capable of sweeping all modern mines of any type. Diesels of non-magnetic stainless steel alloy. Controllable pitch propellers. The names given to *Artevelde* and *Breydel* commemorate those of twelfth-century Flemish patriots. *Artevelde* was transferred at Seattle, Wash., U.S.A., under the Mutual Defense Assistance Program. *Breydel* was delivered at Seattle. Both built by Tacoma Boatbuilding Co., Tacoma, Wash.; *F. Bovesse* and *G. Truffaut* by Tampa Shipbuilding Co. Inc., Tampa, Fla.

Pennant No.	*Name*	*Builders*	*Transferred*
M 907	*Artevelde*	Tacoma	15 Dec. 1955
M 906	*Breydel*	Tacoma	15 Feb. 1956
M 909	*F. Bovesse*	Tampa	12 Oct. 1956
M 908	*G. Truffaut*	Tampa	25 Jan. 1957
M 902	*Van Haverbeke*	Boston	9 Dec. 1960

Name	*Begun*	*Launched*	*Completed*
Artevelde	1953	19 June 1954	15 Dec. 1955
Breydel	1954	25 Mar. 1955	15 Feb. 1956
F. Bovesse	1954	1956	12 Oct. 1956
G. Truffaut	1955	1955	25 Jan. 1957



G. TRUFFAUT — 1962, *courtesy Godfrey H. Walker, Esq.*

SUPPORT SHIPS (*Batiments Logistiques*)

Ex-German Submarine Support Ship

KAMINA (ex-*Royal Harold*) (ex-*Herman von Wissmann*)
Displacement: 3,900 tons *standard* (5,750 tons *full load*)
Dimensions: 344½ (*pp.*) 374 (*o.a.*) × 48½ × 18½ feet
Guns: 2—3 inch, 4—40 mm. AA., 2—20 mm. AA.
Machinery: 1 B. & W. Diesel. 1 shaft. B.H.P.: 3,600 = 15 kts. (cruising)
Radius: 10,000 miles at economical speed
Complement: 175

Notes

Built in 1940 at Hoboken, Antwerp, by J. Cockerill for Poland. Seized by Germans and used as support ship for U-boats in Norway. Transferred to Britain 1945, and finally given to Belgium in Oct. 1950. Pennant No. AP 957 (ex-AP 907). Operational as *Transport de Troupes* until 1960. Re-rated *Batiment Logistiques et Navire d'Entrainement* early in 1962.

Ex-British Ocean Minesweeper

ADRIEN DE GERLACHE (ex-H.M.S. *Liberty*)

Notes

Former British ocean minesweeper of the "Algerine" class, subsequently reclassified as a coastal escort and again re-rated as a *bâtiment logistique* in 1960. See full particulars and photograph in the 1959-60 edition. Pennant No. A 954.



KAMINA — 1961, *Skyfotos*

COASTAL MINESWEEPERS
(Dragueurs de Mines Côtiers)



ROCHEFORT 1961, *Skyfotos*

26 U.S. MSC (ex-AMS) Type 60

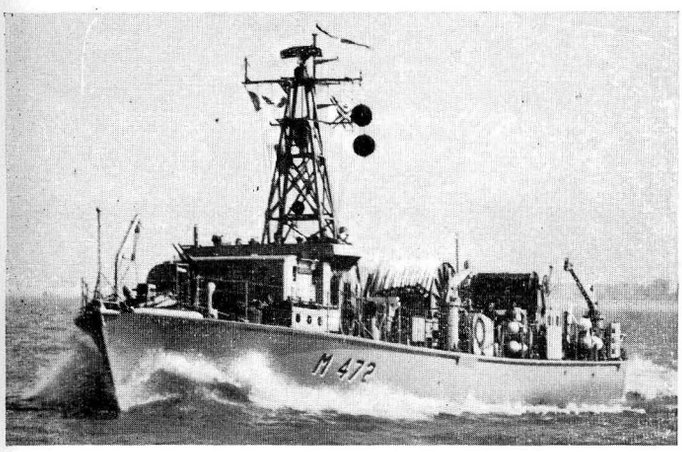
M 915 ARLON (ex-*MSC* 104)
M 916 BASTOGNE (ex-*MSC* 151)
M 923 BLANKENBERGHE (ex-*MSC* 170)
M 917 CHARLEROI (ex-*MSC* 152)
M 925 DE PANNE (ex-*MSC* 131)
M 910 DIEST (ex-*MSC* 77)
M 920 DIKSMUIDE (ex-*MSC* 65)
M 911 EEKLO (ex-*MSC* 101)
M 929 HEIST
M 921 HERVE (ex-*MSC* 153)
M 931 KNOKKE
M 933 KOKSIJDE
M 924 LAROCHE (ex-*MSC* 171)
M 912 LIER (ex-*MSC* 63)
M 913 MAASEIK (ex-*MSC* 78)
M 922 MALMEDY (ex-*MSC* 154)
M 926 MECHELEN
M 932 NIEUWPOORT
M 930 ROCHEFORT
M 914 ROESELAERE (ex-*MSC* 103)
M 918 ST. NIKLASS (ex-*MSC* 64)
M 919 ST. TRUIDEN (ex-*MSC* 169)
M 927 SPA
M 928 STAVELOT
M 934 VERVIERE (ex-*MSC* 259)
M 935 VEURNE (ex-*MSC* 260)

Displacement:	330 tons *light* (390 tons *full load*)
Dimensions:	139 (*pp.*), 144 (*o.a.*) × 27⅞ × 7½ to 8¼ feet
Guns:	2—20 mm. (twin mount)
Machinery:	2 G.M. Diesels. 2 shafts. B.H.P.: 880=13.5 kts. (*max.*)
Oil fuel:	28 tons
Range:	2,700 miles at economical speed (10.5 kts.)
Complement:	40

Notes

Motor minesweepers of wooden construction. New type of vessel constructed throughout of material with the lowest possible magnetic attraction to attain the greatest possible safety factor when sweeping for magnetic mines. M 910-925, 934 and 935 were built in U.S.A., under MDAP, and M 926-933 of same type were built in Belgium under MAP with machinery and armament from U.S.A. M 910 (ex-MSC 77, ex-AMS 77) turned over 12 May 1953, at Boston, M 919 (ex-MSC 169, ex-AMS 169) turned over 25 Feb. 1954, at New York Naval Shipyard, Brooklyn. M 925 (ex-MSC 131, ex-AMS 131) transferred 28 Oct. 1955. M 934 (ex-MSC 259) turned over 19 June 1956. M 935 (ex-MSC 260) was transferred on 7 Sep. 1956. M 926 to 933 were all laid down in 1953-54 and launched and completed in 1954-55.

INSHORE MINESWEEPERS
(Dragueurs de Mines de Petits Fonds)



KORTRIJK 1959, *Belgian Navy, Official*

16 MSI "Herstal Class"

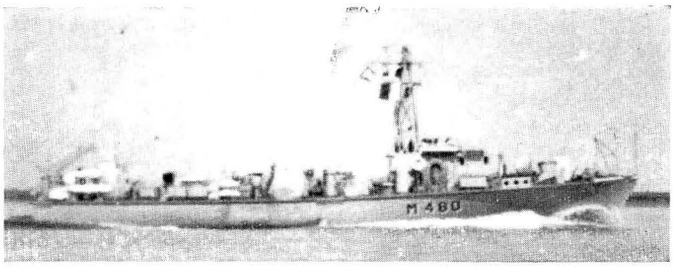
M 485 ANDENNE (ex-*MSI* 97) May 1958
M 484 DINANT (ex-*MSI* 96) 5 Apr. 1958
M 471 HASSELT 17 Nov. 1956
M 478 HERSTAL (ex-*MSI* 90) 6 Aug. 1956
M 479 HUY (ex-*MSI* 91) 17 Nov. 1956
M 472 KORTRIJK 16 Mar. 1957
M 473 LOKEREN 18 May 1957
M 476 MERKSEM 5 Apr. 1958
M 477 OUDENARDE May 1958
M 483 OUGREE (ex-*MSI* 95) 16 Nov. 1957
M 480 SERAING (ex-*MSI* 92) 16 Mar. 1957
M 470 TEMSE 6 Aug. 1956
M 475 TONGEREN 16 Nov. 1957
M 481 TOURNAI (ex-*MSI* 93) 18 May 1957
M 474 TURNHOUT 7 Sep. 1957
M 482 VISE (ex-*MSI* 94) 7 Sep. 1957

Displacement:	160 tons *light* (180 tons *full load*)
Dimensions:	106¾ (*pp.*), 113½ (*o.a.*) × 22½ × 6 to 7 (*max*) feet
Guns:	2—20 mm. AA.
Machinery:	2 diesels, 2 shafts. Speed: 15 kts. (*max.*)
Oil fuel:	18 tons
Range:	2,300 miles at 10 kts.
Complement:	17

Notes

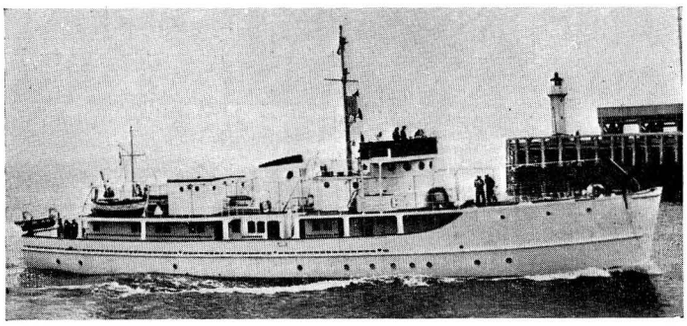
New MSI type. Modified AM1 "100-foot" class. All built in Belgium. The first four MSI were launched in 1956. *Herstal* and *Temse* were both launched at the Mercantile Marine Yard, Kruibche, on 6 Aug. 1956, followed by another pair in 1956, and four more pairs in 1957 (see launch dates above). *Herstal* was completed in June 1957. The first group of eight (M478 to 485) was a United States "off shore order," the remaining eight (M 470 to 477) being financed under the Belgian Navy Estimates.

Inshore Minesweepers—*continued*



SERAING 1958, *courtesy Admiral M. Adam*

RESEARCH SHIPS *(Batiments de Recherches Scientifiques)*



EUPEN 1959, *Belgian Navy, Official*

Ex-U.S. BYMS Type. Coastal Minesweeper

EUPEN (ex-*Eureka*, ex-*BYMS* 11, ex-*Young Joe*)

Displacement:	300 tons
Dimensions:	136 × 25¼ × 8 (*max.*) feet
Machinery:	2 diesels. 2 shafts. B.H.P: 1,000=15 kts.
Radius:	5,500 miles at economical speed
Complement:	14

Notes

Former American auxiliary motor minesweeper. Built at Seattle, Washington, U.S.A., by Associated Shipbuilders, in Sep. 1942. Acquired by Belgium in 1956. Refitted in 1957 as a combined yacht and training ship. Re-rated as *Batiment de Recherches Scientifiques* early in 1962. Pennant No. QM 900.

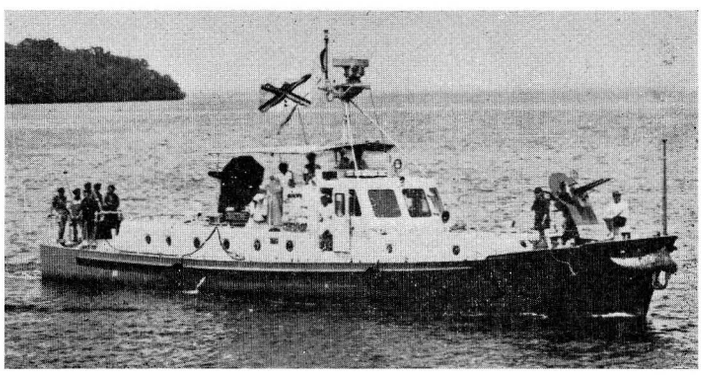
ZENOBE GRAMME

Displacement:	149 tons
Dimensions:	92/76 × 22½ × 7 feet
Machinery:	1 MWM diesel. 1 shaft. B.H.P.: 200=10 kts.
Complement:	14

Notes

Sailing ship, built in Belgium (Temse) in 1961. Designed for scientific research and port sailing.

RIVER PATROL BOATS *(Vedettes Fluviales)*



OURTHE 1962, *Belgian Navy, Official*

DENDER, LEIE, LIBERATION, MEUSE, OURTHE, RUPEL, SAMBRE, SCHELDE, SEMOIS, YSER

Displacement:	25 tons *light* (27.5 tons *full load*)
Dimensions:	75½ (*pp.*), 82 (*o.a.*) × 12½ × 3 feet (*Liberation* 85½ × 13⅛ × 3¼ feet)
Guns:	2 M.G.
Machinery:	2 Diesels. 2 shafts. B.H.P.: 440=19 kts.
Complement:	7

Notes

Built at the Theodor Shipyards of Regensburg, Germany, in 1953, except *Dender*, *Liberation*, *Ourthe*, *Rupel*, in 1954.

TUGS *(Remorqueurs)*

SUB-LIEUTENANT VALCKE

Displacement:	110 tons
Dimensions:	78¾ (*pp.*), 95 (*o.a.*) × 21 × 5½ feet
Machinery:	1 Diesel. 1 shaft. B.H.P.: 600 × 12 kts.
Complement:	14

Notes

Built in Haarlem, Netherlands in 1951. Pennant No. A 950. Photo in 1957/58 edition.

There are also two port tugs (*remorqueurs-portuaires* et *bateau-pompe*), namely *Bij* and *Krekel*, displacement 70 tons, length 57¾ feet, 2 Voigt-Schneider propellers, 500 H.P.; two harbour tugs (*remorqueurs portuaires*), namely *Hommel* and *Wesp*, displacement 22 tons, length 43 feet, with 300 B.H.P. diesels and Voigt Schneider propellers, built in Germany in 1953; three barges, namely *FN 1*, *FN 2* and *FN 3*, displacement 300 tons, length 105 feet, built in the Netherlands; the ammunition ship *Ekster*, displacement 140 tons, length 118 feet, built in Belgium in 1953; the harbour craft *Benga*, length 55 feet, beam 13 feet, one diesel, 110 h.p., built in Belgium in 1955; and the diving cutter *ZM 4*, displacement 50 tons, length 33 feet, built in Belgium in 1953.

BRAZIL

Administration

Minister of Marine:
Contra-Almirante Angelo Nolasco de Almeida.

Chief of Naval Staff:
Almirante de Esquadra Ary Dos Santos Rongel.

Naval Attaché in London:
Captain Alexandrino Ramos de Alencar.

Personnel

1962: 1,700 officers and 41,000 men
(including 10,000 marines)

Naval Aviation

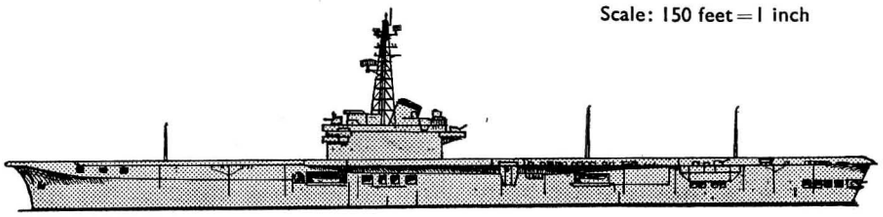
A Fleet Air Arm has been formed.

Mercantile Marine

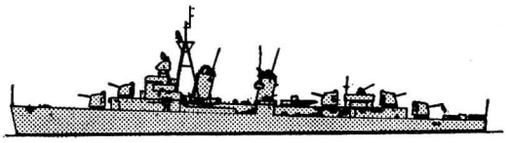
Lloyd's Register of Shipping:
455 vessels of 1,201,047 tons *gross*

Silhouettes

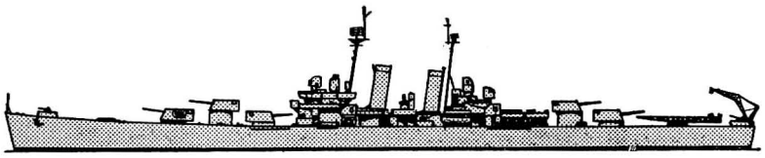
Scale: 150 feet = 1 inch



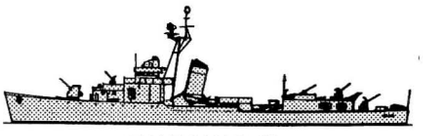
MINAS GERAIS



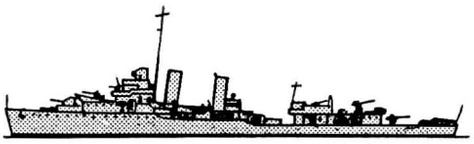
PARA *Class*



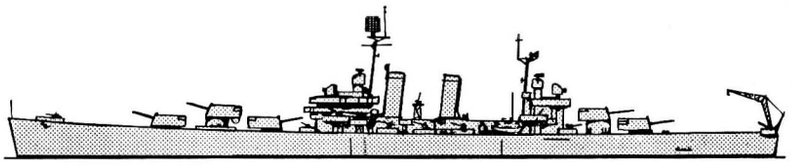
TAMANDARÉ



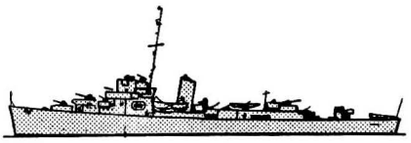
AMAZONAS *Class*



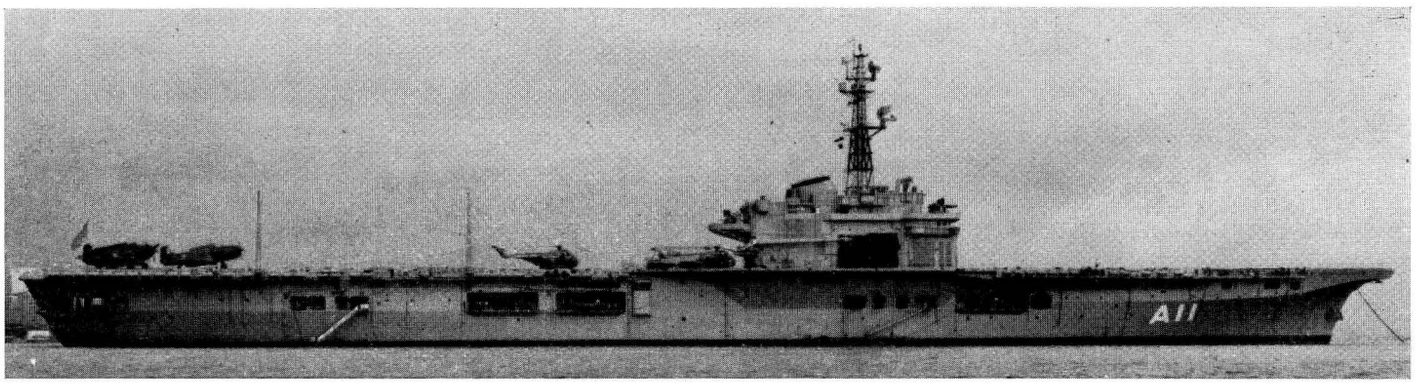
MARCILIO DIAS *Class*



BARROSO

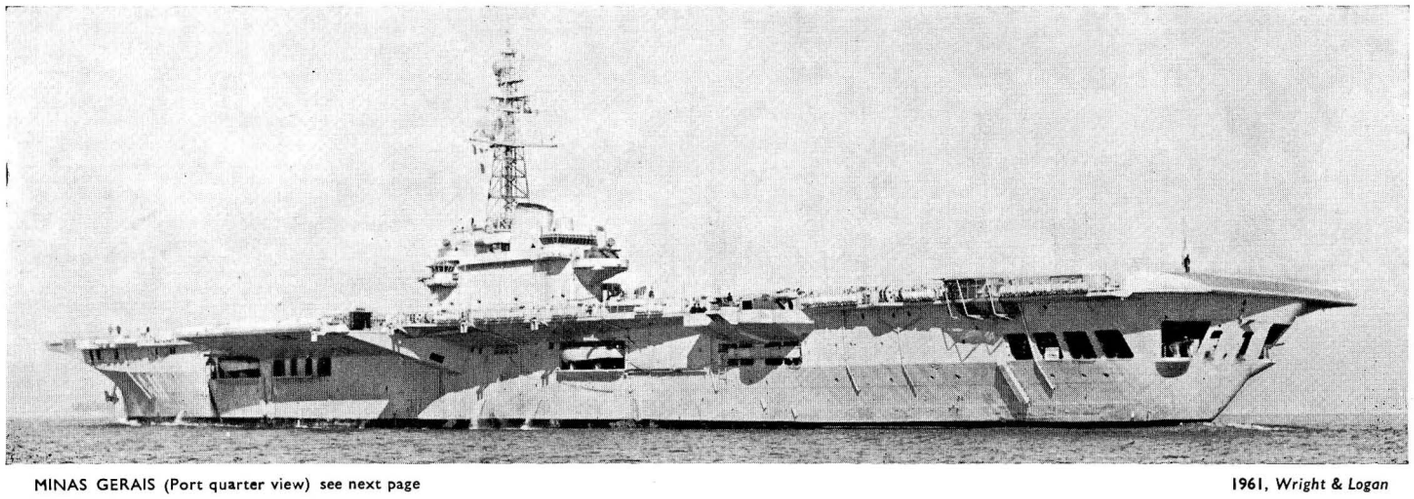


BAURU *Class*



MINAS GERAIS (starboard broadside view)

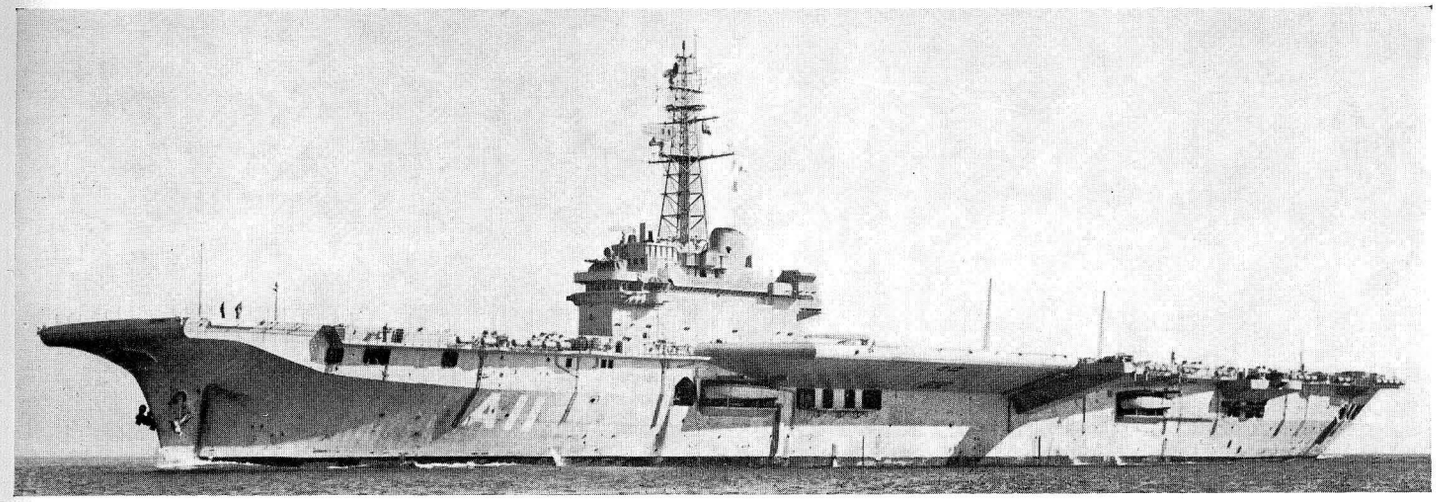
1962, *Brazilian Navy, Official*



MINAS GERAIS (Port quarter view) see next page

1961, *Wright & Logan*

AIRCRAFT CARRIER (NAel)



MINAS GERAIS (after reconstruction). Port bow view

1961, *Wright & Logan*

1 Ex-British Type (" Colossus " Class)

MINAS GERAIS (ex-H.M.S. *Vengeance*)

Pennant No.:	A 11
Builders:	Swan, Hunter & Wigham Richardson, Ltd., Wallsend-on-Tyne
Laid down:	16 Nov. 1942
Launched:	23 Feb. 1944
Completed:	15 Jan. 1945
Reconstructed:	Verolme Dock, Rotterdam, 1957-1960
Displacement:	15,890 tons *standard*, 17,500 tons *normal* (19,890 tons *full load*) revised figures
Dimensions:	Length: 630 (*pp.*), 695 (*o.a.*) feet. Beam: 80 feet. Width: 121 (*o.a.*) feet (as reconstructed) Draught: 21½ (*mean*) 23¼ (*max*) feet. Flight deck: 690 feet long, 80 feet wide, 39 feet above water line.
Guns:	10—40 mm. AA. (2 quadruple twin), 2—47 mm. (saluting)
Aircraft:	35 capacity
Catapult:	1 steam
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 42,000=25 kts. (24·25 kts. sea speed) 25·3 kts. on trials after reconstruction
Boilers:	4 Admiralty 3-drum type (400 lb. working pressure, 700 degrees maximum superheat)
Oil fuel:	3,200 tons
Radius:	12,000 miles at 14 kts.; 6,200 miles at 23 kts.
Complement:	1,000 (1,300 with air group on board)

General Notes

Served in British Navy from 1945 onwards. Fitted out in late 1948-early 1949 for experimental cruise to Arctic. Lent to the Royal Australian Navy early in 1953, but was returned to the Royal Navy in August 1955. British Admiralty announced on 14 Dec. 1956 the purchase of *Vengeance* by the Brazilian Government. Reconstructed at Verolme Dock, Rotterdam (Verolme United Shipyards' Rosenberg yard) from summer 1957 to Dec. 1960. The conversion and overhaul included the installation of the angled deck, steam catapult, mirror sight deck landing system, and complete armament fire control and radar equipment. The ship was purchased for $9,000,000 and the reconstruction cost $27,000,000. Commissioned in Brazilian Navy at Rotterdam on 6 Dec. 1960. Left Rotterdam for Rio de Janeiro on her maiden voyage as *Minas Gerais* on 13 Jan. 1961. To be used primarily for anti-submarine warfare aircraft and helicopters.



MINAS GERAIS (port oblique aerial view)

1962, *Brazilian Navy, Official*

Engineering Notes

Engines and boilers are arranged *en echelon*, the two propelling machinery spaces having one set of turbines and two boilers installed side by side in each space, on the unit system, so that the starboard propeller shaft is longer than the port shaft. Maximum speed is 25 knots at 225 revolutions per minute. Economical speed is 15 knots at 120 revolutions per minute. Boiler capacity was increased when boilers were retubed during reconstruction in 1957-60.

Electrical Notes

During reconstruction a complete alternating current system was built into the ship, and a total of 2,500 kW supplied by four turbo-generators and one diesel generator.

Construction Notes

Damage control: No great measure of vertical sub-division on the sandwich system as it was reckoned that it is better for ships to settle evenly in the event of damage and flooding than to foster capsizing.

Insulated for tropical service and partially air-conditioned.

Operational Notes

Arrester wires to take 20,000 lb. aircraft up to 60 knots. Single track catapult for launching 20,000 lb. aircraft at 60 knots. Catapult accelerator gear port side forward. Flight deck originally designed for 14,000 lb. aircraft reinforced to take 20,000 lb. machines.

Hangar Notes

Dimensions of hangar are: Length, 445 feet; width 52 feet; clear depth, 17½ feet. Dimensions of aircraft lifts were: 45 feet by 34 feet. During reconstruction in 1957-60 new aircraft lifts replaced the original units.

Photograph Notes

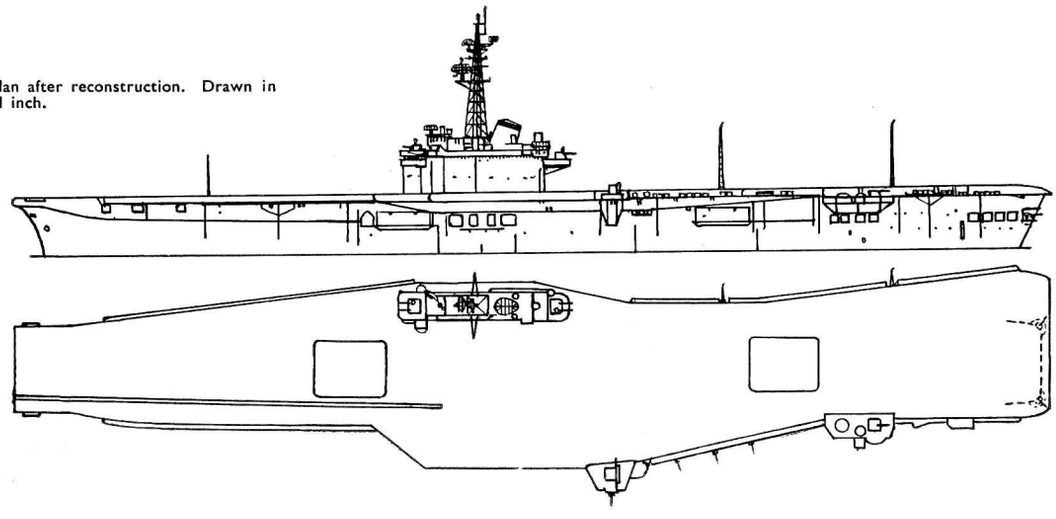
Photographs of this ship before reconstruction appear in the 1957-58 edition (port bow aerial view and starboard bow aerial view) and in the 1958-59 to 1960-61 editions (starboard bow oblique aerial view and starboard broadside view).

Displacement Notes

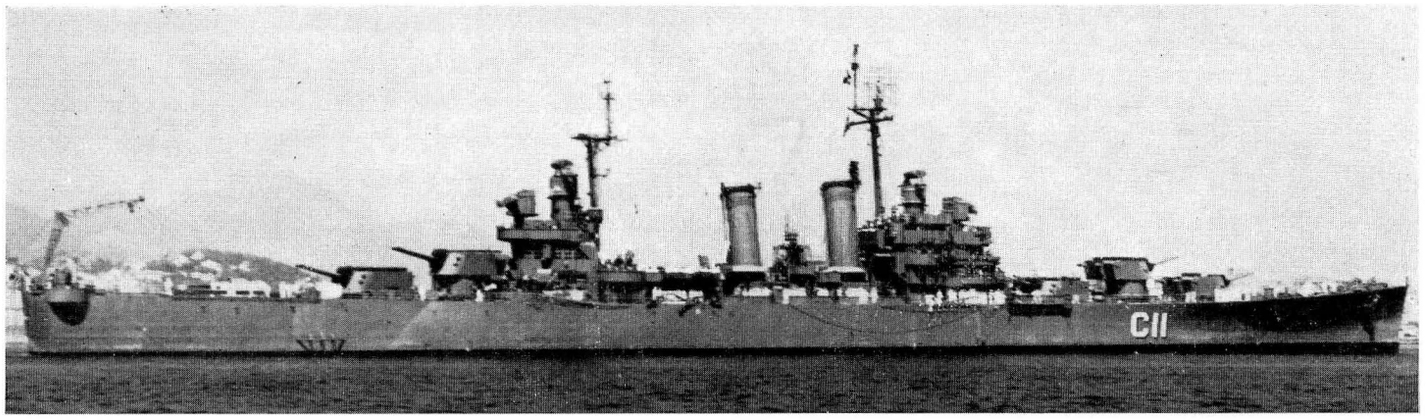
The displacement before reconstruction was 13,190 tons *standard* and 18,040 tons *full load*

Note to Drawing

Port elevation and plan after reconstruction. Drawn in 1961. Scale: 128 feet=1 inch.



CRUISERS (CL)

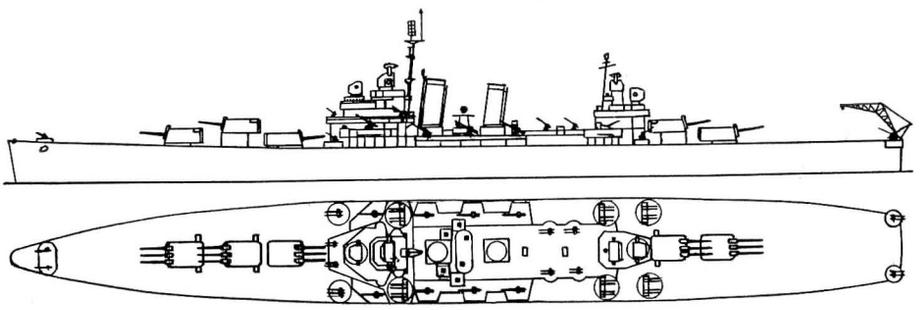


BARROSO

1962, *Brazilian Navy, Official*

BARROSO (ex-U.S.S. *Philadelphia*, CL 41)

Pennant Nos:	C11
Builders:	Philadelphia Navy Yard
Laid down:	28 May 1935
Launched:	17 Nov. 1936
Completed:	28 July 1938
Displacement:	9,700 tons *standard*, 13,000 tons *full load*
Dimensions:	Length: 600 (*w.l.*), 608½ (*o.a.*) feet Beam: 69 feet (with bulges) Draught: 19¾ (*mean*), 24 (*max.*) feet
Guns:	15—6 inch; 47 cal.; 8—5 inch, 38 cal. (single mountings); 28—40 mm. AA.; 20—20 mm. AA
Aircraft:	4 (normal capacity); 6 (maximum accommodation). See *Hangar Notes* above
Armour:	4″ to 1½″ belt, 3″ and 2″ decks, 5″ to 3″ turrets, 8″ conning tower
Machinery:	Westinghouse geared turbines. 4 shafts. S.H.P.: 100,000=32·5 kts.
Boilers:	8 Babcock & Wilcox Express type
Oil fuel:	2,100 tons
Radius:	14,500 miles at 15 kts.
Complement:	888



General Notes

Formerly the American large light cruiser *Philadelphia*, *CL* 41, of the " Brooklyn " class. Purchased from the United States in 1951 (see *General Notes* under *Tamandaré* on previous page). Originally two catapults were mounted on the quarter deck for launching the aircraft (see *Hangar Notes* under *Tamandaré*). After initial completion the superstructure was reduced, bulges were added and the beam increased. Originally cost $14,750,000. Commissioned in the Brazilian Navy on 21 Aug. 1951.

Note to Drawing

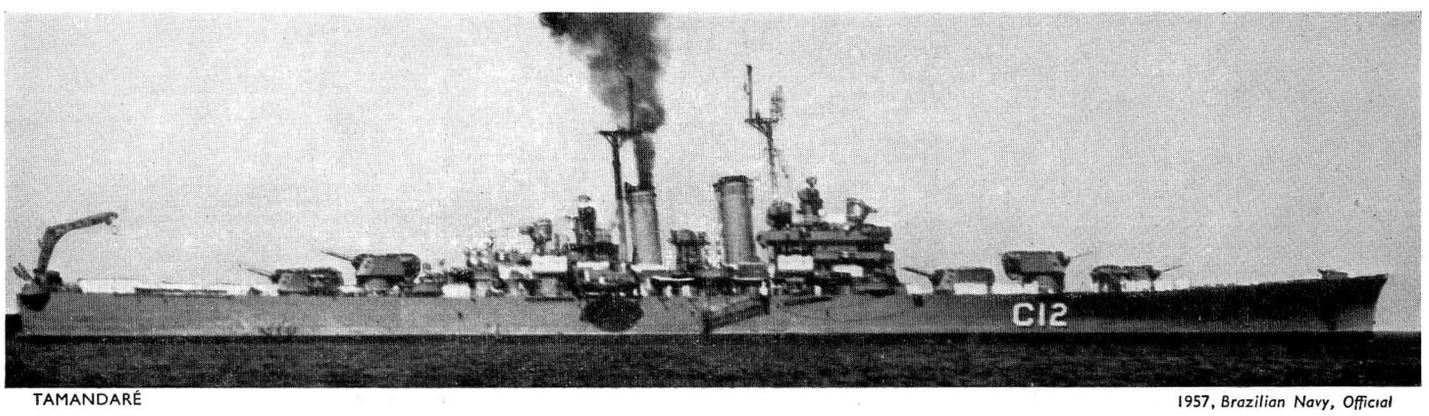
Port elevation and plan. Scale: 128 feet=1 inch.

Class Notes

Originally a sister ship of *General Belgrano* (ex-17 *de Octubre*, ex-U.S.S. *Phoenix*) and *Nueve de Julio* (ex-U.S.S. *Boise*) in the Argentine Navy, and *O'Higgins* (ex-U.S.S. *Brooklyn*) and *Prat* (ex-U.S.S. *Nashville*) in the Chilean Navy.

Photograph Notes

Another photograph of *Barroso* (starboard bow oblique aerial view) appears in the 1957-58 to 1961-62 editions.

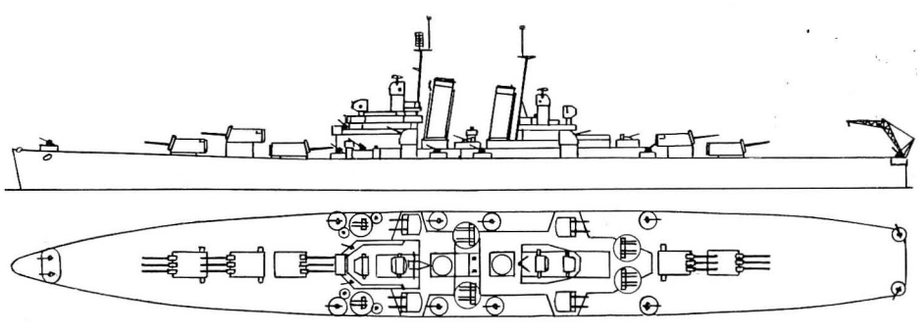


TAMANDARÉ

1957, *Brazilian Navy, Official*

TAMANDARÉ (ex-U.S.S. *St. Louis*, *CL* 49)

Pennant No.:	C 12
Builders:	Newport News S.B. & D.D Co.
Laid down:	10 Dec. 1936
Launched:	15 Apr. 1938
Completed:	10 Dec. 1939
Displacement:	10,000 tons *standard*, 13,500 tons *full load*
Dimensions:	Length: 608½ feet (*o.a.*). Beam: 69 feet. Draught: 24 (*max.*) feet
Guns:	15—6 inch, 47 cal., 8—5 inch, 38 cal. (twin dual purpose), 28—40 mm. A.A., 8—20 mm. AA.
Aircraft:	4 (normal capacity), could accommodate 6.
Armour:	5—1½″ belt, 3″+2″ decks, 5″—3″ turrets, 8″ C.T.
Machinery:	Westinghouse geared turbines, 4 shafts. S.H.P.: 100,000=32·5 kts.
Boilers:	8 Babcock & Wilcox Express type (boiler pressure is higher than in *Barroso*)
Oil fuel:	2,100 tons
Radius:	14,500 miles at 15 kts.
Complement:	975



General Notes

Formerly CL 49 of the U.S. " St. Louis " class. Purchased from the United States, with the *Barroso* (transferred on 29 Jan. 1951) for a sum representing 10 per cent of their original cost ($37,000,000) plus the expense of reconditioning them. *Tamandaré* differs from *Barroso* in having her 5-inch guns mounted in pairs in roomy gunhouses on high bases, a different scheme of boat stowage, a small tripod mast immediately abaft second funnel, and after gunnery control arrangements redistributed.

Photograph Notes

Another photograph of *Tamandaré* (port quarter view) appears in the 1953-54 to 1957-58 editions.

Note to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

Hangar Notes

The hangar in the hull right aft could accommodate 6 aircraft if necessary together with engine spares and duplicate parts, though 4 aircraft has been the normal capacity. The incorporation of this hangar resulted in a very wide and nearly flat counter and high freeboard aft and also gave the after guns higher command. Above the hangar two catapults were mounted as far outboard as possible, and a revolving crane was placed at the stern extremity overhanging the aircraft hatch.

DESTROYERS (*Contratorpedeiros*) (CT)

4 Ex-U.S. "Fletcher" Type. "Para" Class

PARÁ (ex-U.S.S. *Guest*, DD 472)
PARAIBA (ex-U.S.S. *Bennett*, DD 473)
PARANA (ex-U.S.S. *Cushing*, DD 797)
PERNAMBUCO (ex-U.S.S. *Hailey*, DD 556)

Displacement:	2,100 tons *standard* (3,050 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39⅓ × 12¼ (*mean*), 18 (*max.*) feet
Guns:	*Para:* 5—5 inch, 38 cal. d.p., 6—40 mm. Bofors (3 twin); *Paraiba, Parana:* 5—5 inch, 38 cal. d.p., 10—40 mm. Bofors AA. (2 quadruple, 1 twin); *Pernambuco:* 4—5 inch, 38 cal. d.p., 6—3 inch, 50 cal. AA. (3 twin)
Tubes:	5—21 inch (quintupled)
A/S weapons:	2 Hedgehogs, 1 D.C. rack, 2 side-launching torpedo racks, 2 fixed hedgehogs
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000 = 35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	262 (15 officers, 247 men)

General Notes

Ex-American destroyers *Cushing* of the later "Fletcher" class and the other three of the "Fletcher" class (see particulars in U.S. section). Acquired from the United States on loan for five years, under MAP in 1959. The *Guest* was transferred to the Government of Brazil at Mutual Assistance Program ceremonies on 5 June 1959 and renamed *Para*. The *Bennett* was transferred to Brazil on 15 Dec. 1959 at Bremerton, Washington, and renamed *Paraiba*. *Cushing* and *Hailey* were transferred to Brazil under MAP on 20 July 1961, at Norfolk Naval Shipyard, Portsmouth, Virginia, and renamed *Parana* and *Pernambuco*, respectively.

No.	*Name*	*Builders*
D 27	*Para*	Boston Navy Yard
D 28	*Paraiba*	Boston Navy Yard
D 29	*Paraná*	Bethlehem Steel Co. (Staten Island)
D 30	*Pernambuca*	Seattle-Tacoma S.B. Corpn., Seattle

Name	*Laid down*	*Launched*	*Completed*
Pará	27 Sep. 1941	20 Feb. 1942	15 Dec. 1942
Paraiba	10 Dec. 1941	16 Apr. 1942	9 Feb. 1943
Paraná		30 Sep. 1943	17 Jan. 1944
Pernambuco	11 Apr. 1942	9 Mar. 1943	30 Sep. 1943



PERNAMBUCO (four 5-inch guns) 1962, *Brazilian Navy, Official*



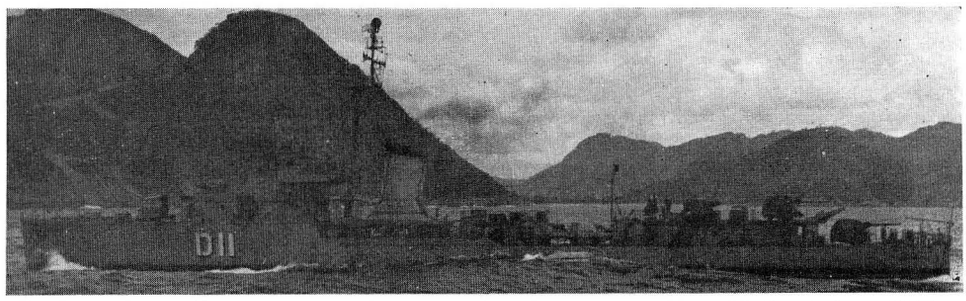
PARÄ (five 5-inch guns) 1960, *Brazilian Navy, Official*

6 British Design. "Amazonas" Class

ACRE **AMAZONAS** **ARAGUAIA**
AJURICABA **APA** **ARAGUARI**

Displacement:	1,450 tons *standard* (1,800 tons *full load*)
Dimensions:	323 (*o.a.*) × 35 × 8½ (*mean*) 9 (*max.*) feet
Guns:	3—5 inch, 38 cal., 2—40 mm. AA., 2—20 mm. AA., 4 D.C.T.
Tubes:	8—21 inch (quadrupled)
Machinery:	Parsons geared turbines. S.H.P.: 34,000=34 kts.
Boilers:	3 of 3-drum type
Oil fuel:	150 tons
Complement:	150

Name	*Laid down*	*Launched*	*Completed*
Acre	28 Dec. 1940	30 May 1945	Dec. 1951
Ajuricaba	28 Dec. 1940	30 May 1945	Dec. 1951
Amazonas	20 July 1940	29 Nov. 1943	10 Nov. 1949
Apa	28 Dec. 1940	30 May 1945	Dec. 1951
Araguari	28 Dec. 1940	1945	23 June 1961
Araguaia	20 July 1940	24 Nov. 1943	3 Sep. 1949



AJURICABA (tripod mast after modernisation) 1962, *Brazilian Navy, Official*

Notes

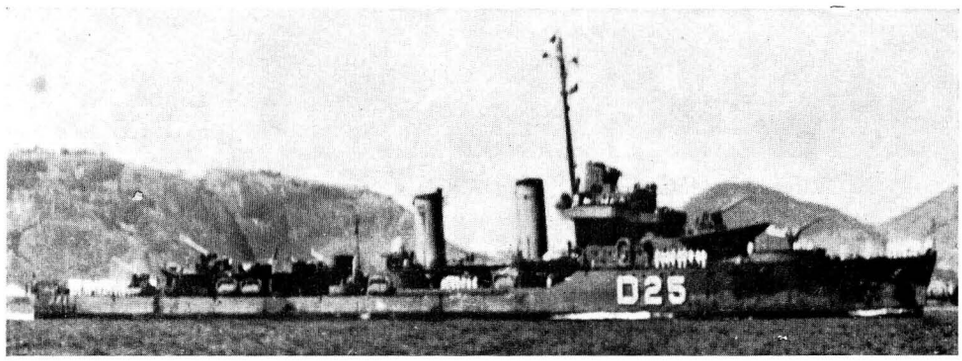
All built by Ilha das Cobras, Rio de Janeiro, to a British design. All named after rivers. Designated CT. Refitted with tripod mast. Pennant Nos. changed from A 4, A 3, A 1, A 6, A 5 and A 2, respectively, to D 10, D 11, D 12, D 13, D 14 and D 15.

3 U.S.A. Design. "Greenhalgh" Class

GREENHALGH **MARCÍLIO DIAS**
MARIZ E BARROS

Displacement:	1,500 tons *standard* (2,200 tons *full load*)
Dimensions:	341 (*pp.*), 360 (*o.a.*) × 35 × 10 (*mean*) 12 (*max.*) feet
Guns:	4—5 inch, 38 cal. (d.p.), 2—40 mm. AA., 6—20 mm. AA.
Tubes:	4—21 inch (quadrupled)
Machinery:	Geared turbines by General Electric Co. S.H.P.: 42,800=36·5 kts.
Boilers:	4 high-pressure watertube of Express type by Babcock & Wilcox
Oil fuel:	550 tons
Radius:	6,000 miles
Complement:	190

Pennant No.	*Name*	*Launched*	*Completed*
D 24	*Greenhalgh*	8 July 1941	1944
D 25	*Marcilio Dias*	20 July 1940	1943
D 26	*Mariz e Barros*	28 Dec. 1940	1944



MARCILIO DIAS 1960, *Brazilian Navy, Official*

Notes

All of U.S.A. design and built at Ilha das Cobras, Rio de Janeiro, with material from U.S.A. These ships are generally similar to destroyers of the U.S. Navy, and are armed with guns of U.S. manufacture. All three were laid down in 1937 and commissioned on 29 Nov., 1943, Designated CT. Pennant Nos. changed from M 3, M 1, and M 2, respectively.

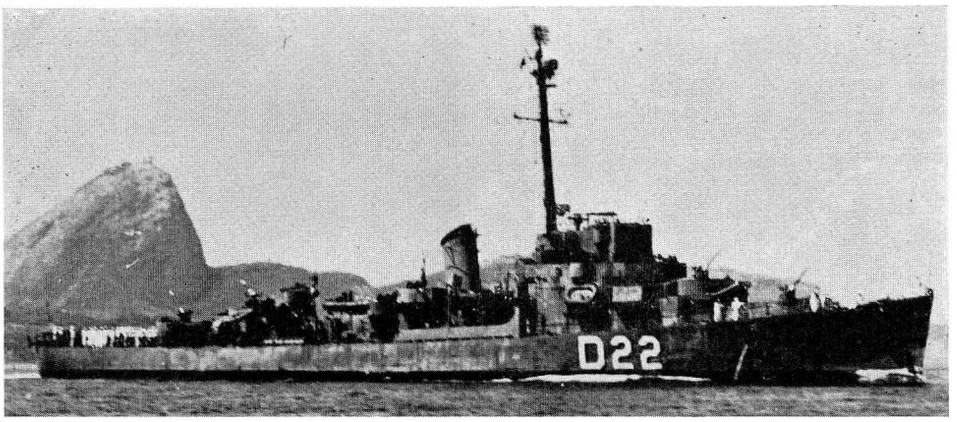
FRIGATES (Destroyer Escorts) (CTE)

8 Ex-U.S. DE Type. "Babitonga" Class

BABITONGA (ex-*Alger*) **BENÁVENTE** (ex-*Christopher*)
BAEPENDI (ex-*Cannon*) **BERTIOGA** (ex-*Pennewill*)
BAURÚ (ex-*Reybold*) **BOCAINA** (ex-*Marts*)
BEBERIBE (ex-*Herzog*) **BRACUI** (ex-*McAnn*)

Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 37 × 10⅜ (*mean*) 12 (*max.*) feet
Guns:	3—3 inch (dual purpose), 2—40 mm., 8—20 mm.
Tubes:	3—21 inch
A/S weapons:	D.C.T.
Machinery:	Diesel-electric tandem-motor drive. 4 General Electric diesels and 2 electric motors. 2 shafts. S.H.P.: 6,000=21 kts. (19 kts. in service)
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	218

Name	*Laid down*	*Launched*	*Completed*
Babitonga	2 Jan. 1943	1943	12 Nov. 1943
Baependi	14 Nov. 1942	25 May 1943	26 Sep. 1943
Bauru	17 May 1943	22 Aug. 1943	11 Oct. 1943
Beberibe	17 May 1943	5 Sep. 1943	6 Oct. 1943
Benávente	7 Dec. 1942	June 1943	23 Oct. 1943
Bertioga	26 Apr. 1943	8 May 1943	15 Sep. 1943
Bocaina	26 Apr. 1943	8 Aug. 1943	3 Sep. 1943
Bracui	3 May 1943	5 Sep. 1943	24 Sep. 1943



BABITONGA — 1960, *Brazilian Navy, Official*

Notes
Ex-U.S. Destroyer Escorts of the "Bostwick" class, formerly *DE* 101, *DE* 99, *DE* 177, *DE* 178, *DE* 100, *DE* 175, *DE* 174 and *DE* 179, respectively. Built by Dravo, Welmington, Del. (*Babitonga* and *Baependi*) and Federal, Port Newark (other six). Transferred from the U.S. Navy in 1944. Designated CTe. Pennant Nos. changed from BE 7, 5, 4, 2, 6, 1, 8, 3, respectively, to D16, D17, D18, D19, D20, D21, D22, and D23.

SUBMARINES (*Submarinos*) (SE)

2 Ex-U.S. "Gato" Class

HUMAITA (ex-U.S.S. *Muskallunge*)
RIACHUELO (ex-U.S.S. *Paddle*)

Name:	*Humaita*	*Riachuelo*
Pennant Nos:	S 14	S 15
Builders:	Electric Boat Co.	Electric Boat Co.
Laid down:	7 Apr. 1942	1 May 1942
Launched:	13 Dec. 1942	30 Dec. 1942
Completed:	15 Mar. 1943	29 Mar. 1943

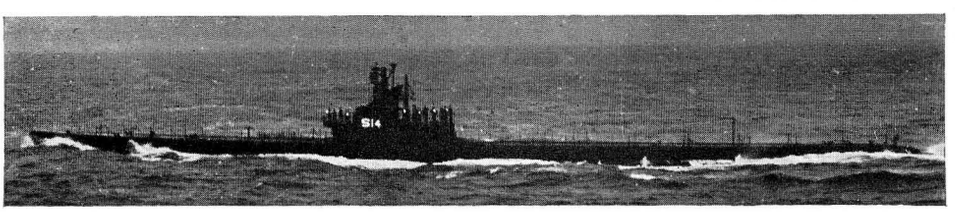
Displacement:	1,525 tons *standard* 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311¾ × 27 × 17 feet
Guns:	1—5 inch, 25 cal., 2—40 mm. AA.
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	General Motors 2-stroke diesels. B.H.P.: 6,500=21 kts. (*surface*); Allis Chalmers electric motors: H P.: 2,750=10 kts. (*submerged*)
Complement:	85

General Notes
Former United States submarines of the "Gato" Class loaned to Brazil for five years under the Mutual Defense Assistance Program, after completion of overhaul at the Philadelphia Naval Shipyard in Jan. 1957. Have two engine rooms to reduce size of compartments.

Recent Disposals
The three ex-Italian submarines of the "Tupi" class, *Tamoia*, *Timbira* and *Tupi*, were officially removed from the list in 1960.



RIACHUELO — 1962, *Brazilian Navy, Official*



HUMAITA — 1960, *Brazilian Navy, Official*

COASTAL MINESWEEPERS (NV)



JAVARI — 1962, *Brazilian Navy, Official*

2 Ex-U.S. MSCo Type. "River" Class

JAVARI (ex-U.S.S. *Cardinal*, MSCo 4) **JUTAI** (ex-U.S.S. *Egret*, MSCo 46)

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136 × 24½ × 8 (*max.*) feet
Guns:	1—40 mm. AA. (*Javari* 4—20 mm. in two twin mountings)
A/S weapons:	2 D.C.T.
Machinery:	2 G.M. diesels. 2 shafts. B.H.P.: 1,000=15 kts.
Oil fuel:	16 tons
Radius:	5,500 miles at economical speed
Complement:	50

General Notes
Coastal motor minesweepers of wooden construction. All launched in 1942-43. Formerly known as Auxiliary Motor Minesweepers (AMS). Reclassified as Minesweepers, Coastal (old), MSC(o), in Feb. 1955. Transferred to the Brazilian Navy by the United States Navy at Charleston Naval Shipyard on 15 Aug. 1960 under the Mutual Defense Assistance Program as the nucleus of a Brazilian mine force, and renamed after Brazilian rivers. Pennant Nos. M 11 and M 12, respectively. Used for patrol and escort duties.

CORVETTES (*Corvetas*) (CV) Fleet Tug Type



IPIRANGA — *Added* 1958, *Official*

10 "Imperial Marinheiro" Class

ANGOSTURA **FORTE DE COIMBRA** **MEARIM**
BAHIANA **IGUATEMI** **PURUS**
CABOCLO **IMPERIAL MARINHEIRO** **SOLIMOES**
IPIRANGA

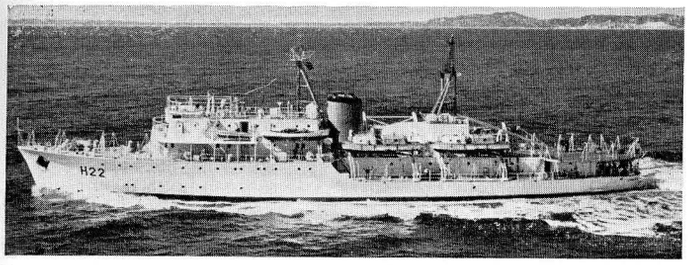
Displacement:	911 tons *standard*
Dimensions:	184 × 30½ × 11¾ feet
Guns:	1—3 inch, 50 cal., 4—20 mm. AA.
Machinery:	2 Sulzer diesel engines. B.H.P.: 2,160=16 kts.
Oil fuel:	135 tons

General Notes
All built in the Netherlands, launched in 1954-55, and incorporated into the Brazilian Navy in 1955. Actually fleet tugs. Pennant Nos. V 20, V 21, V 19, V 18, V 16, V 15, V 17, V 22 V 23 and V 24, respectively.

Photograph Notes
A photograph of *Imperial Marinheiro* appears in the 1956-57 and 1957-58 editions.

Recent Disposals
The three ex-British trawlers rated as *corvetas* and *navios-faroleiros* of the "*Felipe Camarao*" class, *Felipe Camarao*, *Henrique Dias* and *Vidal Negreiros*; the five minelayers rated as *corvetas* and *mineiros* of the "*Carioca*" class, *Cabedelo*, *Camocim*, *Camanea*, *Caravelas* and *Carioca*; and the four ex-American patrol vessels rated as *caca-submarinos*, *Graju*, *Grauna*, *Guajara* and *Gurupi*, were all officially removed from the list in 1960.

SURVEYING VESSELS (*Navios Hidrográficos*) (NHi)



CANOPUS 1958, *Ishikawajima Heavy Industries Co. Ltd.*

2 Frigate Type

CANOPUS **SIRIUS**

Displacement:	1,463 tons *standard*
Measurement:	1,600 tons *gross*
Dimensions:	236½ (*pp.*), 246 (*w.l.*), 255⅜ (*o.a.*) × 39⅓ × 12¼ feet
Guns:	1—3 inch AA., 4—20 mm. M.G.
Machinery:	Diesel. 2 shafts. B.H.P.: 2,700=15 kts.
Complement:	102

Notes

Built by Ishikawajima Heavy Industries Co. Ltd., Tokio, Japan. Fitted with a helicopter platform aft. Special surveying apparatus, echo sounders, Raydist equipment, sounding machines are installed, and a helicopter, landing craft (LCVP), jeep, and surveying launches are carried. The propellers are of the controllable pitch type. All living and working spaces are air-conditioned.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
H 22	*Canopus*	13 Dec. 1956	20 Nov. 1957	15 Mar. 1958
H 21	*Sirius*	13 Dec. 1956	30 July 1957	27 Dec. 1957



ORION 1961, *Brazilian Navy, Official*

3 New Construction (Coastal Type)

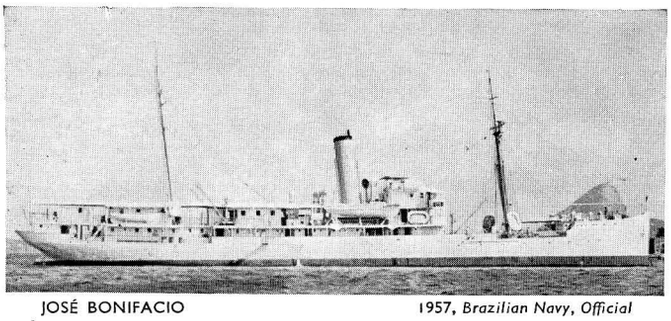
ARGUS **ORION** **TAURUS**

Displacement:	250 tons *standard* (300 tons *full load*)
Dimensions:	138 (*pp.*), 147⅜ (*o.a.*) × 20 feet
Machinery:	2 diesels coupled to two propeller shafts. B.H.P.: 1,200=15 kts.
Oil fuel:	35 tons

Notes

All built by Arsenal da Marinha in Rio de Janeiro and incorporated into the Navy on the effective list on the dates shown as completed in the table below.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
H 31	*Argus*	12 Dec. 1955	6 Dec. 1957	29 Jan. 1959
H 32	*Orion*	12 Dec. 1955	5 Feb. 1958	11 June 1959
H 33	*Taurus*	12 Dec. 1955	7 Jan. 1958	23 Apr. 1959



JOSÉ BONIFACIO 1957, *Brazilian Navy, Official*

JOSÉ BONIFACIO (ex-*Itapema*)

Displacement:	1,300 tons
Dimensions:	270 × 42 × 14 feet
Guns:	2—4 inch, 2—6pdr.
Machinery:	Triple expansion. I.H.P.: 540=9 kts.
Complement:	152

Notes

Built by Ailsa S.B. Co., Troon. Launched in 1909. Transport employed as survey ship. Pennant No. H 12.

Recent Disposals

The old surveying vessel *Rio Branco* (ex-*Ruth*, ex-*Margaret*), launched in 1914, was officially removed from the list in 1958.

The destroyer depot and repair ship *Belmonte*, rated as *torpedeiros depot* and *navio tender*, was officially removed from the list in 1960.

REPAIR SHIP

Ex-U.S.S. **HELIOS**, ARB 12 (ex-*LST* 1127)

Displacement:	1,625 tons *light* (4,100 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11 feet
Guns:	8—40 mm.A.A.
Machinery:	General Motors diesels, 2 shafts. B.H.P.: 1,800 = 11.6 kts.

Notes

Former United States battle damage repair ship. Built by Maryland D.D. Co., Baltimore, Md. Laid down on 23 Nov. 1944. Launched on 14 Feb. 1945. Completed on 26 Feb. 1945. Loaned to Brazil by U.S.A. in Jan. 1962 under MAP.

SEAWARD DEFENCE BOATS (NPa)

5 " P " Class.

PIRAJU (P1) **PIRANHA** (P3) **PIRAQUE** (P4)
PIRAMBU (P2) **PIRAPIA** (P5)

Displacement:	130 tons *standard*
Dimensions:	128 × 19½ × 6 feet
Guns:	1—40 mm. AA., 3—20 mm. AA.
A/S weapons:	30 D.C.
Machinery:	Diesels. 3 shafts. B.H.P.: 1,890=20 kts.
Complement:	30

General Notes

Motor launches. All launched in 1947-48. Built at Rio de Janeiro. The hulls are of wooden construction. Pennant Nos. J 28, J 29, J 30, J 31 and J 32, respectively. A photograph of *Piranha* appears in the 1950-51 to 1960-61 editions.

Recent Disposal

Sister boat *Pirauna*, P 6, was officially removed from the list in 1960.

TRAINING SHIPS (*Navios-Escolas*)

CUSTODIO DE MELLO

Notes

It was officially stated in Jan. 1962 that the transport *Custodio de Mello* of the " Barroso Pereira " class (see next page) has been classified as a training ship since July 1961. A photograph of her appears in the 1956-57 and 1957-58 editions.

ALMIRANTE SALDANHA

Displacement:	3,325 tons *standard* (3,825 tons *full load*)
Dimensions:	262 (*pp.*), 307¼ (*o.a.*) × 52 × 18¼ feet (*mean draught*)
Guns:	4—4 inch, 1—3 inch AA., 4—3 pdr., 1—13 mm. AA., 2 M.G.
Tubes:	1—21 inch
Total sail area:	25,990 sq. ft.
Machinery:	Auxiliary diesel engine. B.H.P.: 1,400=11 kts. (12 kts. reached on trials)
Radius of action:	12,000 miles
Complement:	356+100 midshipmen and cadets

General Notes

Built by Vickers Armstrongs, Ltd., Barrow. Launched on 19 Dec. 1933. Cost £314,500. Instructional minelaying gear is included in equipment. Pennant No. U 10 (ex-NE 1).

Reclassification Notes

It is officially stated that *Almirante Saldanha* has been classified as an Oceanographic Ship (NOc) since Aug. 1959.

Photograph Notes

A photograph of *Almirante Saldanha* appears in the 1952-53 to 1959-60 editions.

ALBATROS (ex-*Wishbone*)

Displacement:	100 tons
Dimensions:	82⅜ × 17⅜ × —feet
Machinery:	Diesel engine for auxiliary propulsion. B.H.P.: 85=5 kts.
Sail area:	3,000 square feet

Notes

British auxiliary two-masted schooner yacht sold to the Brazilian Navy as a training ship. Employed as Naval College Training Yacht. Ballast (lead keel): 28 tons.

Recent Disposal

The ex-German sail training ship (*navios-escolas*) *Guanabara* (ex-*Albert Leo Schlageter*) was officially removed from the list in 1960, and sold to Portugal.

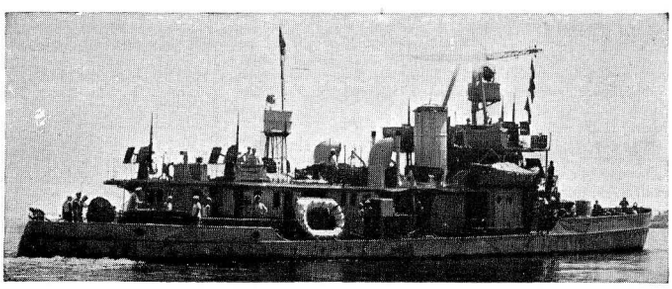
RIVER MONITORS (*Monitores*) (M)

PARAGUAÇÚ (ex-*Victoria*, ex-*Espirito Santo*)

Displacement:	430 tons *standard*
Dimensions:	146½ × 34⅜ × 5 feet
Guns:	1—3 inch, 50 cal.; 2—47 mm., 2—40 mm. AA. (single), 6—20 mm. AA.
Machinery:	2 sets triple expansion, by J. S. White & Co. Ltd., Cowes I.H.P.: 1,100=13 kts.
Boilers:	2, of 3-drum type
Oil fuel:	40 tons
Complement:	71

Notes

Built at Rio de Janeiro. Launched on 22 Dec. 1938. In Matto Grosso Flotilla. Pennant Nos. U 16 (ex-P 3). Re-armed in 1960 (see guns above). For former armament see 1959-60 edition A photograph of *Paraguaçú* appears in the 1940 to 1960-61 editions.



PARNAIBA *Added* 1950

PARNAIBA

Displacement:	620 tons *standard*
Dimensions:	180½ (*o.a.*), 178½ (*pp.*) × 33½ × 5 feet (*max.* draught)
Guns:	1—3 inch, 50 cal.; 2—47 mm., 2—40 mm. AA. (single), 6—20 mm. AA.
Armour:	3" side and partial deck protection
Machinery:	2 sets vertical triple expansion by John I. Thornycroft & Co., Ltd., Southampton. 2 shafts. I.H.P.: 1,300=12 kts.
Boilers:	2, of 3-drum type, working pressure 250 lb.
Oil fuel:	70 tons
Complement:	90

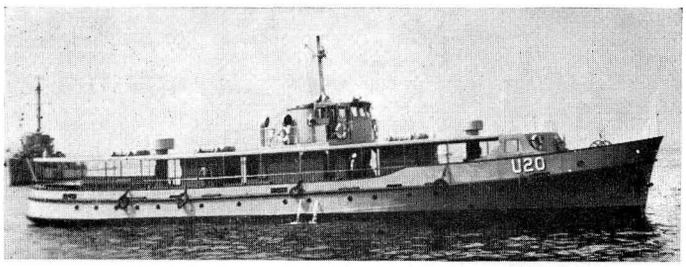
Notes

Built at Rio de Janeiro. Laid down on 11 June 1936. Launched in Sep. 1937, and completed in Nov. 1937. In Matto Grosso Flotilla. Pennant No. U 17 (ex-P 2). Re-armed in 1960 (see guns above). For former armament see 1959-60 edition.

Landing Craft Notes

Ishikawajima Heavy Industries Co., Tokio, have built 28 LCVP for the Brazilian Navy.

RIVER GUNBOATS (*Avisos*) (AV)



RIO DAS CONTAS — *Added 1958, Official*

6 "Rio" Class

RIO DAS CONTAS **RIO FORMOSO** **RIO TURVO**
RIO DOCE **RIO REAL** **RIO VERDE**

Displacement: 150 tons *standard*
Dimensions: 121½×21½×9¾ feet
Machinery: Diesel. B.H.P.: 450=15 kts.

Notes
Built in the Netherlands in 1955-56. Officially classified as *avisos*. Pennant Nos. U 21, U 20, U 22, U 23, U 24 and U 25, respectively.

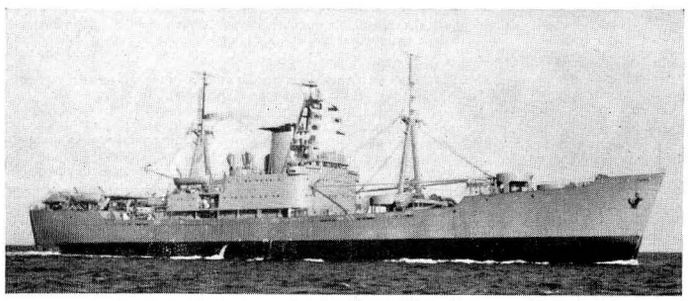
OIAPOQUE (ex-*Amapa*, ex-*Cidade de Belem*)

Displacement: 195 tons *standard*
Dimensions: 130 (*pp.*), 137 (*o.a.*)×18×6 feet
Guns: 2—20 mm. AA.
Machinery: Triple expansion. 2 shafts. I.H.P.: 450=14 kts
Boiler: 1 Babcock watertube
Coal: 51 tons
Complement: 51

General Notes
Built by John I. Thorneycroft & Co. Ltd., Southampton. Launched in 1907. In Matto Grosso Flotilla. Re-armed in 1960. Pennant No. U 15.

Photograph Notes
A photograph of *Oiapoque* appears in the 1953-54 to 1959-60 editions.

TRANSPORTS (*Navios-Auxiliares*) (TrT)



SOARES DUTRA — *1958, Ishikawajima Heavy Industries Co. Ltd.*

4 "Pereira" Class

ARY PARREIRAS **CUSTÓDIO DE MELLO**
BARROSO PEREIRA **SOARES DUTRA**

Displacement: 4,800 tons *standard* (7,300 tons *full load*)
Measurement: 4,200 tons *deadweight*, 4,879 tons gross (Panama)
Dimensions: 362 (*pp.*), 391¾ (*o.a.*)×52½×20¼ feet (*max.*)
Guns: 8—40 mm. AA.
Machinery: 2 sets Ishikawajima all impulse 2 cylinder cross compound double reduction geared turbines. 2 shafts. S.H.P.: 4,800=17·67 kts. (sea speed 15 kts.)
Boilers: 2 Ishikawajima two drum water tube type, oil fuel
Complement: 127 (Troop capacity 1,972)

General Notes
All built in Japan by Ishikawajima Heavy Industries Co., Ltd., Tokio. Transports and cargo vessels. Flush deckers with forecastle and long poop. Elevator type helicopter landing platform laid on aft. Normal troop carrying capacity for 497 personnel, with commensurate medical, hospital and dental facilities. All working and living quarters are mechanically ventilated with partial air conditioning. Refrigerated cargo space of 15,500 cubic feet. Can carry 4,000 tons of cargo. *Barroso Pereira* and *Custódio de Mello* were incorporated into the Brazilian Navy on 22 Mar. 1955 and 8 Feb. 1955 respectively.

Reclassification Notes
It was officially stated in Jan. 1962 that *Custódio de Mello* has been classified as a Training ship since July 1961.

Photograph Notes
A photograph of *Custódio de Mello* appears in the 1956-57 and 1957-58 editions.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
G 21	*Ary Parreiras*	13 Dec. 1955	24 Aug. 1956	29 Dec. 1956
G 16	*Barroso Pereira*	13 Dec. 1953	10 Aug. 1954	1 Dec. 1954
G 15	*Custódio de Mello*	13 Dec. 1953	10 June 1954	30 Dec. 1954
G 22	*Soares Dutra*	13 Dec. 1955	13 Dec. 1956	23 Mar. 1957

Recent Disposals
The old transport *Almirante Frontin* (ex-*Itassuce*) was officially removed from the list in 1958.

The ex-American dual purpose transport and training ship *Duque de Caxias*, U 11 (ex-*Orizaba*, AP 24) was officially removed from the list in 1960.

OILERS (*Navios-Tanques*) (NT)

ANITA GARIBALDI **GASTÃO MOUTINHO**

Displacement: 794 tons *full load*
Dimensions: 150½ (*pp.*), 162 (*o.a.*)×23×8 feet
Machinery: Diesel. 1 shaft
Capacity: 505 tons

Notes
Constructed at the Naval Dockyards in Rio de Janeiro. Commissioned in 1956.

MATARIPE (BO) **TAUBATÉ** (BO)

Displacement: 743 tons
Dimensions: 164⅝×23¾×9¾ feet
Machinery: Diesel. 1 shaft
Capacity 488 tons

ITAPURA (BA) **PAULO AFONSO** (BA)

Displacement: 485·3 tons
Dimensions: 140½×23×8 feet
Machinery: Diesel. 1 shaft
Capacity: 389 tons

Notes
Mataripe and *Taubaté* are oilers, and *Itapura* and *Paulo Afonso*, Pennant No. R 43, are water tankers. Near sisters. Launched in 1957.

2 "R" Class

RAZA (ex-*Klaskanine*, ex-*AOG* 63) **RIJO** (ex-*Gualula*, ex-*AOG* 28)

Displacement: 2,228 tons *full load*
Dimensions: 217½×37×7 feet
Machinery: Diesel engines. B.H.P.: 850=9 kts.
Capacity: 1,500 tons
Complement: 41

General Notes
Former American petrol carriers (gasoline tankers). Both built at East Coast Shipyards, Bayonne, N.J., U.S.A. U.S.M.C. type TI-M-A2.

Photograph Notes
A photograph of *Rijo* appears in the 1950-51 to 1959-60 editions.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
G 19 (ex-R 2)	*Raza*	21 Dec. 1944	3 Feb. 1945	26 Feb. 1945
G 20 (ex-R 1)	*Rijo*	24 Apr. 1944	3 June 1944	19 Aug. 1944

GARCIA D'AVILA (ex-*YO* 71)

Displacement: 1,400 tons
Dimensions: 176½×32×15 feet
Machinery: One Fairbanks Morse diesel engine, 5 cylinders, 2 cycle. B.H.P.: 500=10 kts.

Notes
Former American yard oiler. Built in 1943. Purchased from the U.S. Navy in 1947. Pennant No. G12.

POTENGI

Displacement: 600 tons
Dimensions: 175½ (*pp.*), 178¾ (*o.a.*)×24½×6 feet
Machinery: Diesel engines. 2 shafts. B.H.P.: 550=10 kts.
Oil: 450 tons
Complement: 19

Notes
Built at the Papendrecht yard in the Nederlands. Launched on 16 Mar. 1938. Employed in the Matto Grosso Flotilla on river service. Pennant No. G 17.

Recent Disposals
The ex-American oiler *Ilha Grande* (ex-*Silver Star Park*, ex-*Santa Cecilia*) was officially removed from the list in 1960.

TUGS (*Rebocadores*) (R)

TRIDENTE (ex-*ATA* 235) **TRITÃO** (ex-*ATA* 234) **TRIUNFO** (ex-*ATA* 236)

Displacement: 534 tons (835 tons *full load*)
Dimensions: 133¾ (*w.l.*), 143 (*o.a.*)×33¾×13½ feet
Machinery: G.M. diesel-electric. H.P.: 1,500=13 kts.

General Notes
All built by Gulfport Boiler & Welding Works, Inc., Port Arthur, Texas, and launched in 1954. Ex-U.S. *ATRs*. Pennant Nos. *Tridente*, R 22, *Tritao*, R 21, *Trifuno*, R 23 (ex-R 2, R 1, R 3).

Photograph Notes
Photograph of *Tridente* in the 1950-51 to 1957-58 editions.

AUDAZ **GUARANI** **PASSO DA PATRIA**
CENTAURO **LAMEGO** **VOLUNTARIO**

Measurement: 130 tons *gross*
Dimensions: 82 (*pp.*), 90½ (*o.a.*)×23½×7½ (*fore*), 1½ (*aft*) feet
Machinery: Wumag-diesel motor. B.H.P.: 750=11 kts.

Notes
All built at Holland-Nautic Yard, Haarlem, Netherlands, in 1953. Small but powerful tugs of a new type for the Brazilian Navy. Pennant Nos. R 31, R 32, R 33, R 34, R 35 and R 36, respectively.

Recent Disposal
The tug *Anibal de Mendonca* (ex-*Times*, ex-St. *Keyne*) former British tug of the "Saint" class, was taken out of commission and officially deleted from the list in 1962.

LAURINDO PITTA **LOMBA**

Displacement: 514 tons
Dimensions: 130×26×15 feet
Machinery: Triple expansion. 2 shafts. I.H.P.: 850=11 kts

Notes
Laurindo Pitta, Pennant No. R 14, was built in Great Britain by Vickers. Launched in 1910.

ANTONIO JOÃO

Displacement: 80 tons
Dimensions: 75½×17½×6¾ feet
Machinery: Fairbanks Morse diesel engine, 6 cylinder, 2 cycle. B.H.P.: 180

Notes
Formerly classed as *aviso*. General utility craft for river service. Pennant No. R 26.

WANDENKOLK

Displacement: 350 tons
Machinery: S.H.P.: 600

Notes
Formerly known as *Almirante Wandenkolk*, Pennant No. R 20.

Recent Disposals
The tug *Mario Alves* was officially removed from the list in 1960, and the tug *Almirante Julio de Noronha* was officially excluded from the list in 1962 as she is now out of commission.

BULGARIA

DESTROYERS

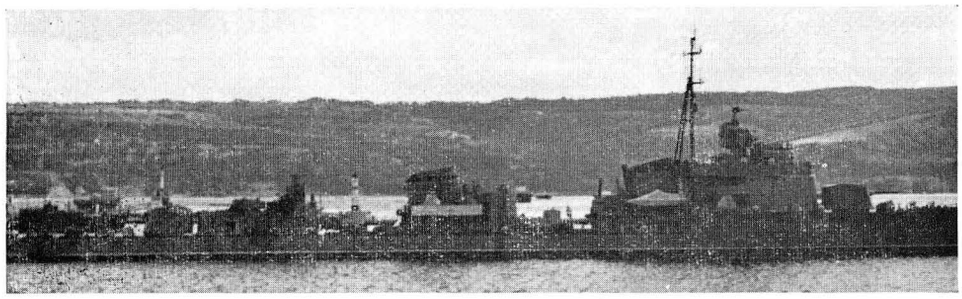
2 Ex-U.S.S.R. "Skoryi" Type

Notes
Two Soviet "Skoryi" class destroyers are reported to be in Bulgarian waters on loan or base facility terms. For particulars of the class see U.S.S.R. section.

1 Ex-U.S.S.R. "Otlichnyi" Type

GEORGI DIMITROV (ex-Russian)

Displacement:	1,800 tons *standard* (2,650 tons *full load*)
Dimensions:	387⅛ (*o.a.*) × 36¾ × 12½ feet
Guns:	4—5·1 inch, 55 cal. (twin mounts), 2—3 inch AA., 6—37 mm. AA.
Tubes:	8—21 inch
A/S Weapons:	4 D.C.T.
Mines:	68 to 80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=38 kts.
Boilers:	3
Oil fuel:	500 tons
Complement:	250



GEORG DIMITROV — 1960, *Mr. P. H. Silverstone*

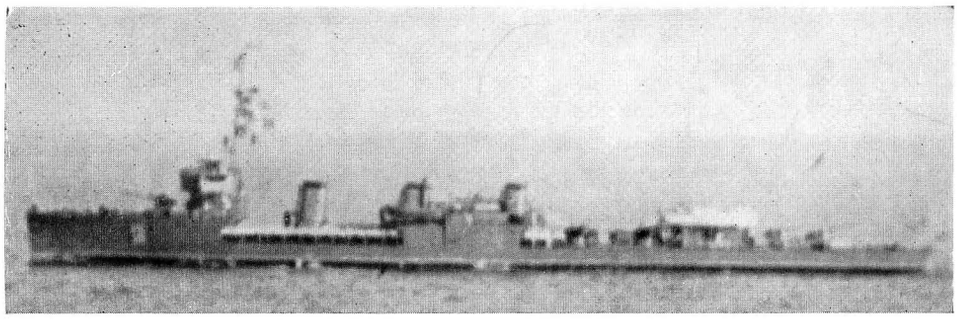
Notes
Former Russian destroyer of the "Otlichnyi" class. Built by Marti Nikolaiev. Launched in 1943. Bulgaria is reported to have received at least one other destroyer from the U.S.S.R.

1 Ex-U.S.S.R. "Novik" Type

Ex-**ZHELYEZNYAKOV** (ex-*Petrovski*, ex-*Korfu*)

Displacement:	1,350 tons *standard* (1,600 tons *full load*)
Dimensions:	303½ × 29½ × 9 feet
Guns:	3—3·9 inch, 2—37 mm. AA.
Machinery:	Turbine. S.H.P.: 29,000=26 kts.
Boilers:	5
Oil fuel:	390 tons
Radius:	1,800 miles at 22 kts.
Complement:	200

Notes
Ex-Russian *Zhelyeznyakov* of the old (1912) "Novik" type of destroyers. Built at Nikolaiev. Launched in 1917. Completed in 1925. Transferred to Bulgaria in 1950.



Ex-ZHELYEZNYAKOV — *Official*

FRIGATES

4 "Riga" Type

DERSKI **KHRABRI** **SMELY** **STROGI**

Displacement:	950 tons *standard* (1,200 tons *full load*)
Dimensions:	278¾ × 29½ × 10 feet
Guns:	3—3·9 inch AA., 4—37 mm. AA.
Tubes:	3—21 inch
A/S weapons:	4 D.C.T.
Mines:	50
Machinery:	Geared turbines. 2 shafts. S.H.P.: 24,000=27 kts.

Notes
Reported to have been transferred from the Russian Navy.

SUBMARINES

6 Coastal Type

M 1 **M 2** **M 3**

Displacement:	205 tons *surface* (256 tons *submerged*)
Dimensions:	147 × 10¾ × 8¾ feet
Guns:	1—37 mm.
Tubes:	2—21 inch
Machinery:	Diesels. B.H.P.: 800=13 kts. *surface*. Electric motors. H.P.: 400 =8 kts. *submerged*
Oil fuel:	18 tons
Radius:	3,400 miles at 8 kts.

Notes
Bulgaria is reported to have acquired three more Soviet M V type submarines, and one Soviet M IV type submarine.

MINESWEEPERS

4 M 35 Type

Displacement:	717 tons *standard* (874 tons *full load*)
Dimensions:	223 × 27¼ × 8½ feet
Guns:	2—4·1 inch, 2—37 mm. AA., 8—20 mm. AA.
Machinery:	2 Lenz triple expansion. 2 shafts. I.H.P.: 3,200=18 kts.
Boilers:	2 high pressure Wagner
Oil fuel:	143 tons
Radius:	5,000 miles at 10 kts.
Complement:	100

Notes
Former German fleet minesweepers of the M boat 35 type. Built in 1940. There are also reported to be ten minesweepers of 150 tons transferred from the U.S.S.R.

MINELAYER

1 Training Type

Displacement: 2,200 tons

Notes
A dual purpose minelayer and training ship under construction is reported being acquired from the U.S.S.R.

PATROL VESSELS

2 SC Type

BELOMORETZ (ex-French *C 27*)
CHERNOMORETZ (ex-*C 80*)

Displacement :	77 tons
Guns:	1—47 mm., 2 M.G.
Machinery:	3 sets of 220 B.H.P. standard petrol motors, totalling 660 B.H.P.=17 kts.
Fuel:	9 tons
Radius:	700 miles at 10 kts.
Complement:	26

Notes
Former submarine chasers built in the United States in 1917-18. Both purchased from France in 1922.
There are also *Rila* and another vessel. Both launched 1941. Displacement 200 tons.

Recent Disposals
It is reported that the very old patrol vessels *Derzki*, *Khrabri* and *Strogi* have been discarded.

INSHORE MINESWEEPERS

9 M Type

Displacement: 150 tons

Notes
Reported to be former German M boats acquired from the U.S.S.R.

LANDING CRAFT

20 KT Type

Displacement: 550 tons *light*

Notes
Reported to have been acquired from the U.S.S.R. in 1959-61.

MOTOR TORPEDO BOATS

50 PA 2 Type

Displacement:	40 tons
Guns:	4—25 mm. AA.
Machinery:	Speed=40 kts.

Notes
Former Russian fast patrol boats of the PA2 type. Built in 1950. There are reported to be a total of 56 MTBs acquired from the U.S.S.R.

No. 3 (ex-S 201) **No. 4** (ex-S 202)

Displacement:	35 tons
Dimensions:	70 × 20 × 4 feet
Guns:	1—20 mm.
Tubes:	2—21 inch
Machinery:	3 sets Rolls Royce petrol motors. B.H.P.: 3,000=45 kts.
Complement:	9

Notes
Former German Schnellboote. Built by Werft Gusto, Schiedam, Holland (1940). British Power Boat Company type.

No. 2

Displacement:	60 tons
Dimensions:	92 × 14⅔ × 5½ feet
Guns:	1—20 mm. AA.
Tubes:	2—21 inch
Machinery:	3 Mercedes-Benz motors. B.H.P.: 3,150=34 kts.
Complement:	18

Notes
Former German Schnellboote. Built by Lurssen, Vegesack. Launched 1939. No. 1 was a war loss while in German hands.

TRAINING VESSELS

ASSEN

Displacement:	240 tons
Guns:	2—65 mm., 1 M.G.
Machinery:	H.P.: 120=7 kts.

Notes
Auxiliary sail training vessel. Launched 1912. Refitted 1933-34.
There is also the *Kamcia*, launched 1898. Refitted 1925. Speed, 10 kts.

BURMA

Administration

Vice-Chief of Staff, Defence Services (Navy): Commodore Than Pe.

Naval, Military and Air Attaché in London: Colonel Aye Maung.

Personnel

1962: 3,000 officers and ratings, including reserves

FRIGATE

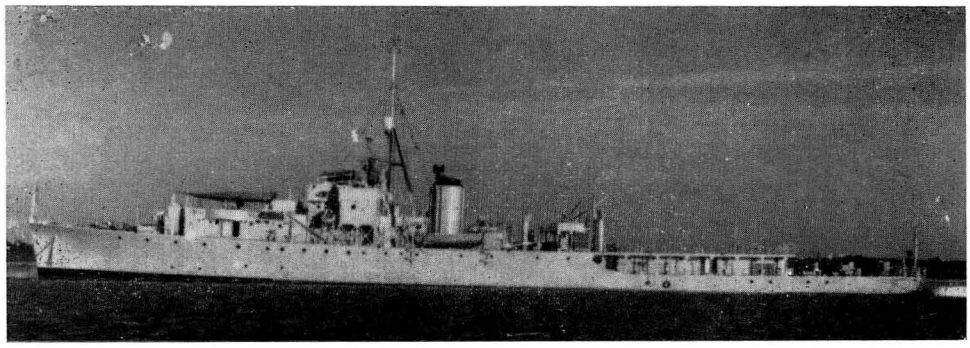
1 Ex-British "River" Class

MAYU (ex-H.M.S. *Fal*)

Builders:	Smith's Dock Co. Ltd., South Bank-on-Tees
Laid down:	20 May 1942
Launched:	9 Nov. 1942
Completed:	2 July 1943
Displacement:	1,460 tons *standard*, 2,170 tons *full load*
Dimensions:	283 (*pp.*), 301½ (*o.a.*) × 36⅔ × 12 feet
Guns:	2—4 inch D.P., 4—40 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 19 kts.
Boilers:	2, of 3-drum type
Fuel:	440 tons
Complement:	140

Notes

"River" class frigate. Acquired from Great Britain in 1947.



MAYU 1962, *Burmese Navy, Official*

ESCORT MINESWEEPER

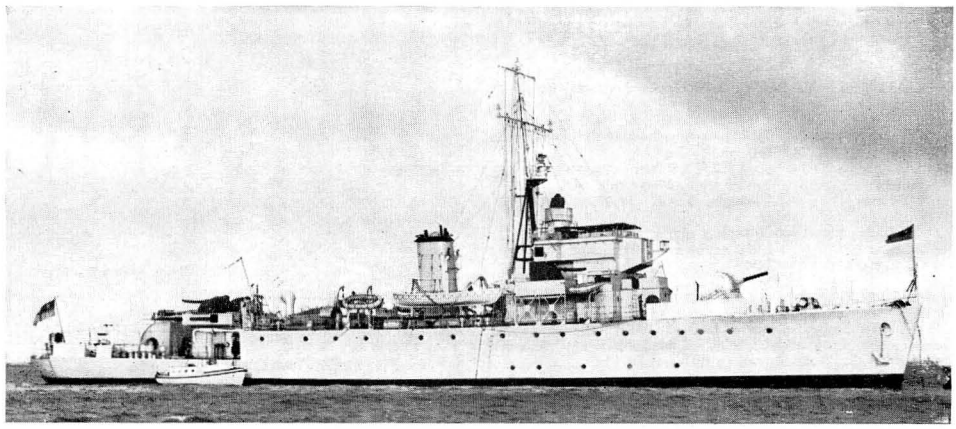
1 Ex-British "Algerine" Class

YAN MYO AUNG (ex-H.M.S. *Mariner*, *M 380*, *ex-Kincardine*)

Builders:	Port Arthur Shipyards, Canada
Laid down:	26 Aug. 1943
Launched:	9 May 1944
Completed:	23 May 1945
Displacement:	1,040 tons *standard* (1,335 tons *full load*)
Dimensions:	225 (*pp.*), 235 (*o.a.*) × 35½ × 11½ (*max.*) feet
Guns:	1—4 inch 4—40 mm. AA.
Machinery:	Triple Expansion. 2 shafts. S.H.P.: 2,000 = 16·5 kts.
Boilers:	2, of 3-drum type
Radius:	4,000 miles
Complement:	140

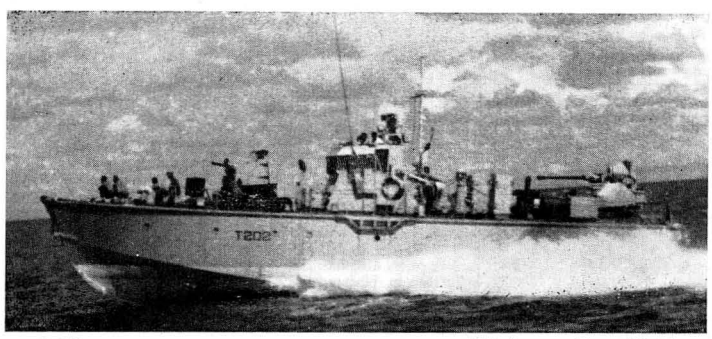
Notes

Formerly of the fastest and most efficient class of ocean minesweepers in the British Navy, which were of the corvette type and were frequently used as escort vessels. *Mariner* was transferred from Great Britain in 1957 with Burma paying the cost of reactivation at H.M. Dockyard, Sheerness. The ship was actually handed over to Burma in the Pool of London and renamed *Yan Myo Aung*, on 18 Apr. 1958. She is fitted for minelaying and can carry 16 mines, eight on each side.



YAN MYO AUNG 1958, *Wright & Logan*

MOTOR TORPEDO BOATS



T 202 1962, *Burmese Navy, Official*

5 British-Built MTB/MGB Convertible Type

T 201 (ex-*PTS* 101) **T 202** (ex-*PTS* 102) **T 203** (ex-*PTS* 103) **T 204** (ex-*PTS* 104) **T 205** (ex-*PTS* 105)

Displacement:	50 tons *standard* (64 tons *full load*)
Dimensions:	67 (*pp.*), 71¼ (*o.a.*) × 19½ × 6 (*max.*) feet
Guns:	(as gunboat) 1—4·5 inch, 1—40 mm. AA.
Tubes:	(as torpedo boat) 4—21 inch with 2—20 mm. AA. (twin)
Machinery:	2 Napier Deltic diesels. S.H.P.: 5,000 = 42 kts.
Complement:	13

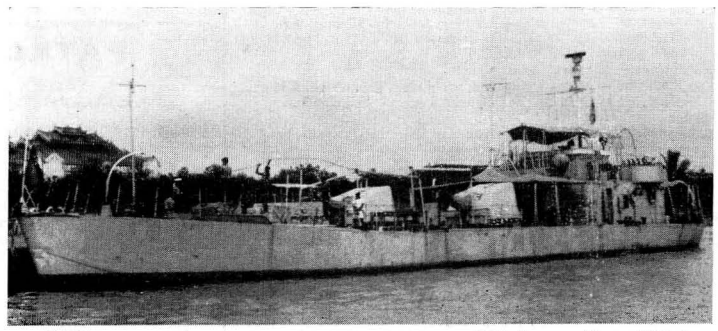
Notes

Saunders Roe (Anglesey) Ltd. received from the British Admiralty the order for these interchangeable motor torpedo boats/motor gunboats for delivery to the Burmese Government. These convertible craft are of aluminium construction, having a riveted skin and a riveted aluminium alloy framework. As well as main engines, auxiliary power is also provided by diesels. The Saunders-Roe slow-speed electric drive is fitted to facilitate manoeuvring in the confined inland waters where the craft may be required to operate. Armament and layout of the vessels are similar to the British Admiralty fast patrol boats of the "Dark" Class. The order, including engines, equipment and spares, amounted to over £1,800,000. T 201 was launched on 24 Mar. 1956. All completed 1956-57.

Photograph Notes

A photograph of T 201 appears in the 1956-57 to 1961-62 editions.

SUPPORT GUNBOATS



INMA 1962, *Burmese Navy, Official*

4 Ex-British LCG (M) Type

INDAW **INLAY** **INMA** **INYA**

Displacement:	381 tons
Dimensions:	154½ (*o.a.*) × 22½ × 7¾ feet
Guns:	2—25 pdr., 2—20 mm. AA.
Machinery:	Paxman Ricardo. 12 T.P.M. Vee-type diesels. 2 shafts. B.H.P.: 1,000 = 13 kts.
Complement:	39

Notes

Former British *LCG(M)* type vessels—landing craft, gun, medium. Employed as gunboats.

Photograph Notes

A photograph of *Inlay* appears in the 1950-51 to 1961-62 editions.

Boom Defence Vessel Notes

The former British "Bar" class boom defence vessel *Barstoke*, which had been on loan to the Rangoon Port Commission since 1946, was returned to the Royal Navy at Singapore at the end of 1959 and put up for sale.

Recent Disposals

The former British 105 ft. motor minesweeper *MMS 197* was decommissioned in 1957 and scrapped. Her sister ship *MMS 201* was stricken from the Navy List in 1956 and scrapped.

PATROL GUNBOATS



PGM 401 — 1962, *Burmese Navy, Official*

6 U.S.-Built PGM Type

PGM 401 **PGM 403** **PGM 405**
PGM 402 **PGM 404** **PGM 406**

Displacement:	100 tons
Dimensions:	95 × 19 × 5 feet
Guns:	1—40 mm. AA., 2—0·5 U.S. Browning M.G.
Machinery:	4 General Motors diesels. 2 shafts. B.H.P.: 1,000 = 16 kts.
Complement:	17

Notes
Built by Marinette Marine Corporation, U.S.A. Machinery comprises 2-stroke, 6 cylinder, tandem geared, twin diesel propulsion unit—1 L.H. and 1 R.H. Brake horse power: 500 per unit.

MOTOR GUNBOATS



MGB 102 — 1962, *Burmese Navy, Official*

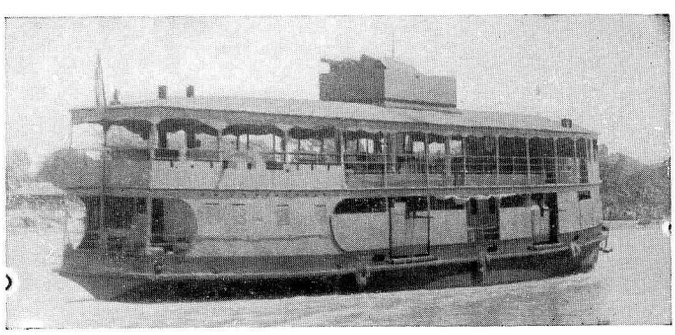
7 Ex-United States C.G.C. Type

MGB 101 **MGB 104** **MGB 106** **MGB 110**
MGB 102 **MGB 105** **MGB 108**

Displacement:	49 tons *standard* (66 tons *full load*)
Dimensions:	78 (*pp.*), 83 (*o.a.*) × 16 × 5½ feet
Guns:	1—40 mm. AA., 1—20 mm. AA.
Machinery:	4 General Motors diesels. 2 shafts. B.H.P.: 800 = 11 kts.
Complement:	16

Notes
Ex-U.S.C.G. 83-ft. type cutters with new hulls built in Burma. Machinery comprises 2 stroke 6 cylinder, tandem geared, twin diesel propulsion units—1 L.H. and 1 R.H. drive. Brake horse power: 400 per unit.

No.	*Builders*	*Laid down*	*Launched*	*Completed*
MGB 101	U Tin Shein Bros.	9 Sep. 1959	9 May 1960	29 Nov. 1960
MGB 102	Pretam Singh & Co.	12 Sep. 1959	9 July 1960	30 Aug. 1960
MGB 104	U Tin Shein Bros.	18 Aug. 1959	26 Mar. 1960	29 Nov. 1960
MGB 105	Pretam Singh & Co.	16 Sep. 1959	11 Aug. 1960	9 Sep. 1960
MGB 106	U Chit Sein & Co.	28 Aug. 1959	28 May 1960	28 Nov. 1960
MGB 108	Pretam Singh & Co.	16 Sep. 1959	25 Aug. 1960	9 Sep. 1960
MGB 110	U Chit Sein & Co.	3 Sep. 1959	23 Aug. 1960	28 Nov. 1960



SHWEPAZUN—*see next column* — 1952, *Burmese Navy, Official*

TUG

TUSA 233

Notes
On loan to the Burmese Navy from Great Britain since 1950. At Rangoon.

RIVER GUNBOATS



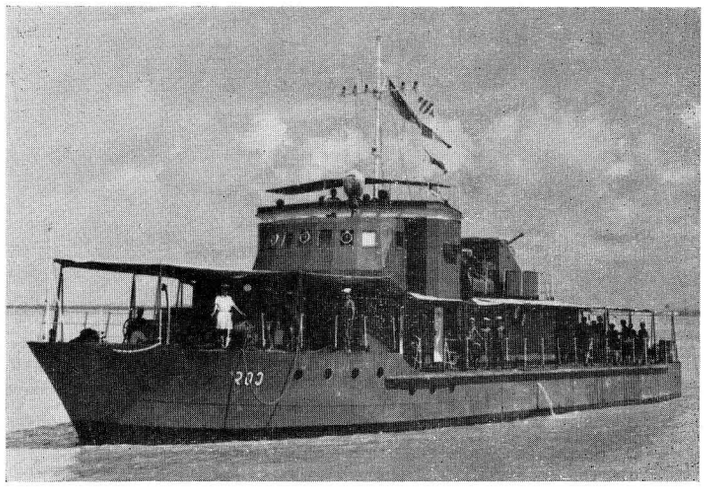
NAGAKYAY — 1962, *Burmese Navy, Official*

2 Burmese-Built Large Type

NAGAKYAY **NAWARAT**

Displacement	400 tons *standard* (450 tons *full load*)
Dimensions:	163 × 26¾ × 5¾ feet
Guns:	2—25 pdr. Q.F., 2—40 mm. AA.
Machinery:	2 Paxman-Ricardo turbo-charged diesels. 2 shafts. B.H.P.: 1,160 = 12 kts.
Complement:	43

Notes
Built at the Government Dockyard, Dawbon, Rangoon ,Burma. *Nagakyay* was completed on 30 Dec. 1960 and *Nawarat* on 26 Apr. 1960.



Y 301 — 1962, *Burmese Navy, Official*

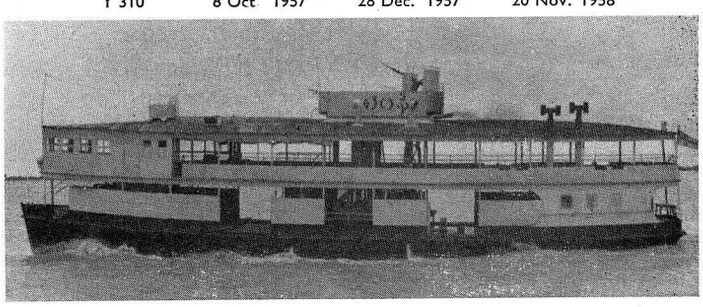
10 Yugoslavian-Built "Y" Type

Y 301 **Y 303** **Y 305** **Y 307** **Y 309**
Y 302 **Y 304** **Y 306** **Y 308** **Y 310**

Displacement:	120 tons
Dimensions:	100 (*pp.*), 104¾ (*o.a.*) × 24 × 3 feet
Guns:	1—40 mm. AA., 1—2 pdr.
Machinery:	2 Mercedes-Benz diesels. 2 shafts. B.H.P.: 1,000 = 13 kts.
Complement:	29

Notes
Built at Shipyard " Uljanik," Pula, Yugoslavia.

No.	*Laid down*	*Launched*	*Completed*
Y 301	10 Nov. 1956	25 Mar. 1957	28 Feb. 1958
Y 302	12 Feb 1957	26 June 1957	26 Mar. 1958
Y 303	14 Apr 1957	14 Aug 1957	26 Mar. 1958
Y 304	10 June 1957	17 Aug. 1957	26 Mar. 1958
Y 305	1 July 1957	30 Aug. 1957	10 Oct. 1958
Y 306	22 July 1957	6 Oct. 1957	26 Mar. 1958
Y 307	6 Aug. 1957	30 Oct. 1957	10 Oct. 1958
Y 308	21 Aug. 1957	27 Nov. 1957	10 Oct. 1958
Y 309	11 Sep. 1957	23 Dec. 1957	20 Nov. 1958
Y 310	8 Oct 1957	28 Dec. 1957	20 Nov. 1958



SABAN — 1962, *Burmese Navy, Official*

9 Converted Transport Type

HINTHA **SAGU** **SETKYA** **SHWEPAZUN**
SABAN **SEINDA** **SETYAHAT** **SHWETHIDA**
SINMIN

Displacement:	98 tons
Dimensions:	94½ × 22 × 4½ feet
Guns:	6—20 mm. AA.
Machinery:	Crossley ERL.—6 diesel. B.H.P.: 160 = 12 kts.
Complement:	32

Notes
Nine river gunboats are river steamers leased from Inland Water Transportation Board and converted to gunboats. Six more river gunboats are planned for construction at Rangoon Naval Workshop. These RGB's were converted to transport craft.

CAMBODIA

Marine Royale Khmere

The Marine Royale Khmere was established on 20 April, 1954.

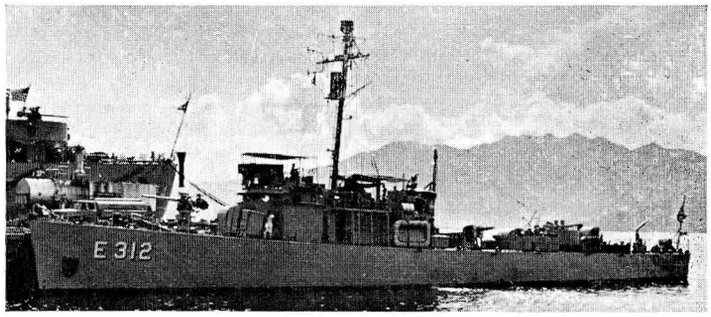
Administration

Chief of Naval Operations:
Captain (Capitaine de Vaisseau) Pierre Coedés.

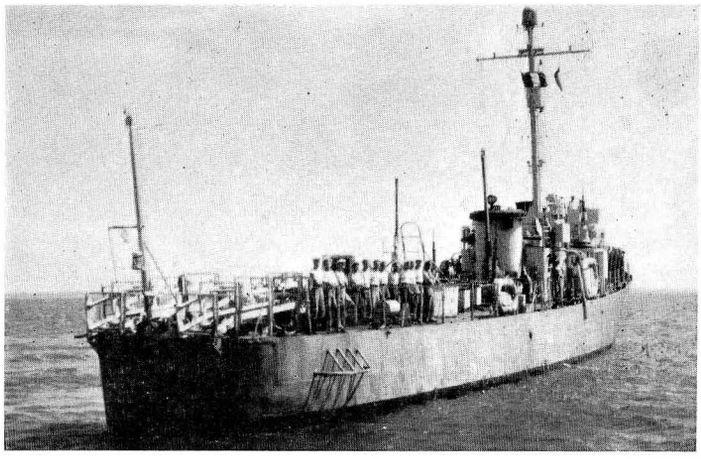
Personnel

1962: *Navy:* 1,200 officers and men.
Marine Corps: 152 officers and men.

PATROL VESSELS



E 312 — 1960, *United States Navy, Official*



P C Type — *French Navy, Official*

2 Ex-U.S. PC Type

E 311 (ex-*Flemberge*, *P* 631, ex-*PC* 1086) **E 312** (ex-*L'Inconstant*, *P* 636, ex-*PC* 1171

Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 (*w.l.*), 173⅜ (*o.a.*) × 23 × 6½ feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 3,600=20 kts. (18 kts. sea speed)
Oil fuel:	62 tons
Radius:	6,000 miles at 10 kts.
Complement:	60

Notes

Former American submarine chasers of the PC type. Transferred from the United States Navy to the French Navy in 1951 and served in Indo-China. Transferred to the Marine Royale Khmere in 1955-56. Built of steel.

SUPPORT GUNBOAT

1 Ex-U.S. LSIL Type

P 111 (ex-*LSIL* 9039, ex-*LSIL* 875)

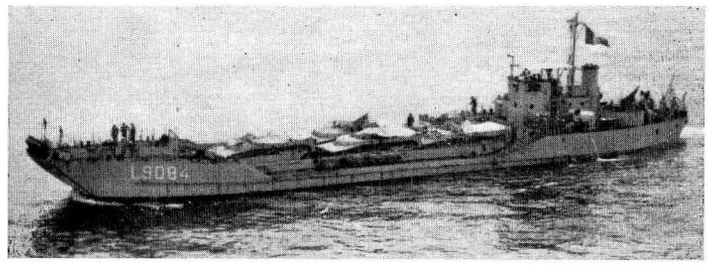
Displacement:	230 tons *standard* (387 tons *full load*)
Dimensions:	169 × 23⅜ × 5⅜ feet
Guns:	1—3 inch, 1—40 mm. AA., 2—20 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,320=14 kts.
Oil fuel:	110 tons
Radius:	8,000 miles at 12 kts.
Complement:	58

Notes

Former American infantry landing ship of the LSIL type. Transferred from the United States Navy to the French Navy on 2 Mar. 1951 and stationed in Indo-China. Transferred to the Marine Royale Khmere in 1957.

There are also 7 landing craft (LCM), 39 armoured craft (LCVP), 2 patrol boats (YP) and 6 auxiliaries (YAG).

TANK LANDING CRAFT



L C T Type — *Ex-French Navy*

2 Ex-U.S. LCT(6) Type

ex-**LCT 9085** (ex-622) ex-**LCT 9091** (ex-720)

Displacement:	160 tons *standard* (320 tons *full load*)
Dimensions:	105 (*w.l.*), 119 (*o.a.*) × 32⅔ × 5 feet
Guns:	1—40 mm. AA., 4—20 mm. AA.
Machinery:	Gray diesels. 3 shafts. B.H.P.: 675=8 kts.
Oil fuel:	11 tons
Radius:	700 miles at 7 kts.
Complement:	13

Notes

Former American tank landing craft of the LCT (6) type. Transferred from the United States Navy to the French Navy for service in Indo-China. Transferred from the French Navy to the Marine Royale Khmere in 1956-57.

There are also ex-U.S.S. *YTL* 555 and ex-U.S.S. *YTL* 556, transferred in 1956 by the French.

UTILITY LANDING CRAFT

2 Ex-U.S. LCU Type

HQ 534 (ex-*LCU* 9089) ex-**LCU 9073**

Displacement:	180 tons *standard* (360 tons *full load*)
Dimensions:	115 (*w.l.*), 119 (*o.a.*) × 34 × 6 feet
Guns:	2—20 mm. AA.
Machinery:	3 diesels. 3 shafts. B.H.P.: 675=8 kts.
Oil fuel:	12 tons
Radius:	750 miles at 7 kts.
Complement:	12

Notes

Former United States utility landing craft of the LCU type. Transferred from the U.S Navy to the French Navy for service in Indo-China. Transferred from the French Navy to the Marine Royale Khmere in 1954-56.

SEAWARD PATROL CRAFT

3 Ex-U.S. HDML Type

ex-**VP 748** (ex-*HDML* 1228) ex-**VP 762** (ex-*VP* 42,
ex-**VP 749** (ex-*HDML* 1229) ex-*HDML* 1457)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 16 × 5½ feet
Guns:	2—20 mm. Oerlikon AA., 4—7·5 mm. M.G.
Machinery:	2 diesels. 2 shafts. B.H.P.: 300=12 kts.
Oil fuel:	6 tons
Radius:	2,200 miles at 10 kts.
Complement:	8

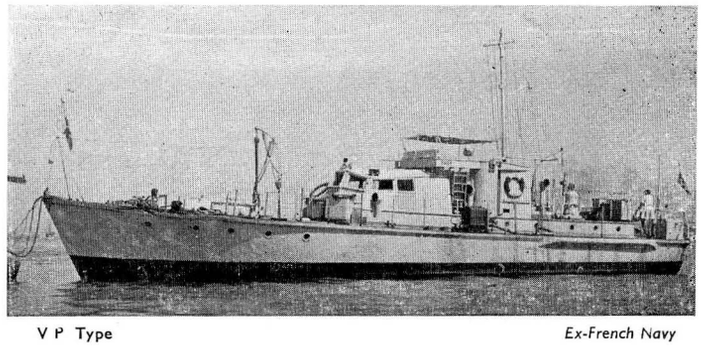
Notes

Former British harbour defence motor launches of the HDML type. Transferred from the British Navy to the French Navy in 1944 (VP 762) and 1950 (VP 748 and VP 749). Transferred from the French Navy to the Marine Royale Khmere in 1956 (VP 748) and later (other two).

CAMEROON

Complete independence was proclaimed on 1 Jan. 1960. France was reported to be transferring one frigate of the "L'Aventure" class to Cameroon. Already in service are four patrol boats of steel construction all 105 ft. long with a speed of 24 knots, and one river steamer 115 ft. long with a steel hull is being overhauled and armed for use as a river gunboat.

PATROL BOAT



V P Type — *Ex-French Navy*

PATRIE DU CAMEROUN (ex-*VP* 747, ex-*HDML* 1423)

Displacement:	40 tons *standard* (52 tons *full load*)
Dimensions:	71 × 15¼ × 6 feet
Guns:	2—20 mm. AA., 4 M.G.
Machinery:	2 diesels. 2 shafts. B.H.P.: 300=12 kts.
Radius:	2,200 miles at 10 kts.
Oil fuel:	6·2 tons
Complement:	11

Notes

Former British harbour defence motor launch of the HDML type. Launched in 1943. Transferred from the British Navy to the French Navy in 1950 for service in Indo-China. Transferred from the French Navy to the Cameroon Government in 1961.

ROYAL CANADIAN NAVY

Administration

Minister of National Defence:
The Hon. Douglas S. Harkness, P.C., G.M., E.D., M.P.

Associate Minister of National Defence:
The Hon. Pierre Sevigny, M.P.

Naval Board

Chief of the Naval Staff:
Vice-Admiral H. S. Rayner, D.S.C. and Bar, C.D., R.C.N.

Vice-Chief of the Naval Staff
Rear-Admiral J. V. Brock, D.S.O., D.S.C., C.D., R.C.N.

Chief of Naval Personnel:
Rear-Admiral P. D. Budge, D.S.C., C.D., R.C.N.

Chief of Naval Technical Services:
Rear-Admiral J. B. Caldwell, M.B.E., C.D., R.C.N.

Naval Comptroller:
Rear-Admiral C. J. Dillon, C.D., R.C.N.

Secretary to the Naval Board:
Captain A. O. Solomon, C.D., R.C.N.

Naval Member, Canadian Joint Staff, London:
Commodore A. G. Boulton, D.S.C., C.D., R.C.N.

R.C.N.

Canada's Navy officially came into being when, on 4 May, 1910, Royal Assent was granted to the Naval Service Act, and in the same year two protected cruisers, the *Niobe* and *Rainbow*, were acquired from the Royal Navy. Ships of the R.C.N. have served in three wars. During the First World War the Canadian naval contribution was about 9,600 officers and men and 100 ships. During the Second World War the R.C.N. expanded to 392 armed ships and 95,000 officers, men and wrens, Canada's major naval effort being devoted to the Battle of the Atlantic. Canadian destroyers served in the Far East throughout the Korean War.

(Note that rank prefixes, indicating branch of service, e.g. (E), (S), have been eliminated, except in the case of the Medical Branch.)

Reserve

In Dec. 1961, Royal Canadian Naval Reserve (R.C.N.R.) became the official designation of this component of the naval service, replacing the former Royal Canadian Navy (Reserve), the name adopted in January, 1946.

The R.C.N.R. has 21 naval divisions, commissioned as ships, across Canada, under the overall command of the Commanding Officer Naval Divisions, with headquarters at Hamilton, Ontario.

Navy Estimates

1954-55: $337,281,000	1958-59: $309,040,000
1955-56: $326,318,000	1959-60: $287,500,000
1956-57: $330,200,000	1960-61: $271,300,000
1957-58: $309,040,000	1961-62: $279,900,000
	1962-63: $287,466,000

Ships

Ships of the R.C.N. carry a maple leaf on the funnel (or after funnel). A broad black band distinguishes the senior ship of a squadron "Barber Pole" stripes are painted on the lower structure of the foremast of ships of the Fifth Canadian Escort Squadron. (Gatineau, Restigouche, St. Croix, Kootenay, Terra Nova, Columbia and Chaudiere), in the tradition of the "Barber Pole Brigade," mid-ocean escort group of the Second World War.

In 1962 there were 63 ships in commission, exclusive of two R.N. submarines of the Sixth Naval Division under R.C.N. operational control.

Personnel

On 7 Sep. 1961 the authorized complement was increased to 22,469 officers and men, including officer cadets and naval apprentices, formerly listed separately. The strength on 1 Jan. 1962 was 21,151, or 1,318 short of ceiling. Ships were manned to 89 per cent of full complement as compared with 80 per cent in Sept. Breakdown of borne strength on 1 Jan. 1962 was as follows: 2,574 Officers; 531 officer cadets; 18,046 men and wrens.

Mercantile Marine

Lloyd's Register of Shipping:

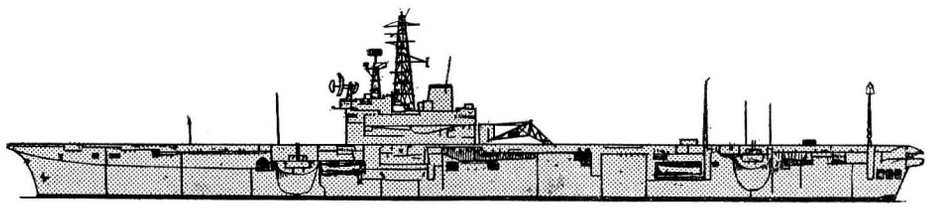
Sea: 711 vessels of 559,168 tons *gross*

Great Lakes: 369 vessels of 1,109,787 tons *gross*

Total: 1,080 vessels of 1,668,955 tons *gross*

Silhouettes

Scale: 150 ft. = 1 inch



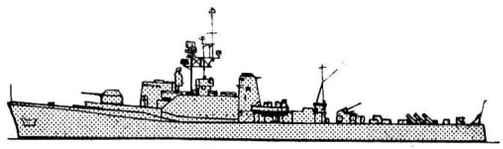
BONAVENTURE



"TRIBAL" *Class*, Group I



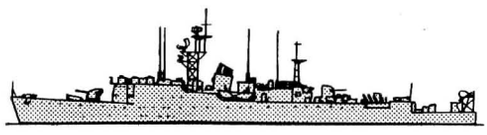
SIOUX (now has funnel cap)



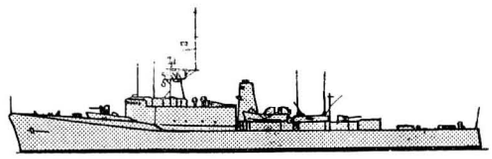
RESTIGOUCHE *Class*



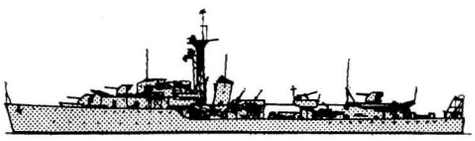
"TRIBAL" *Class*, Group II



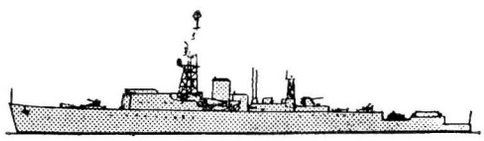
CRESCENT



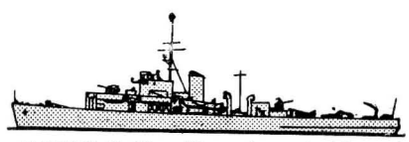
ST. LAURENT *Class*



CRUSADER

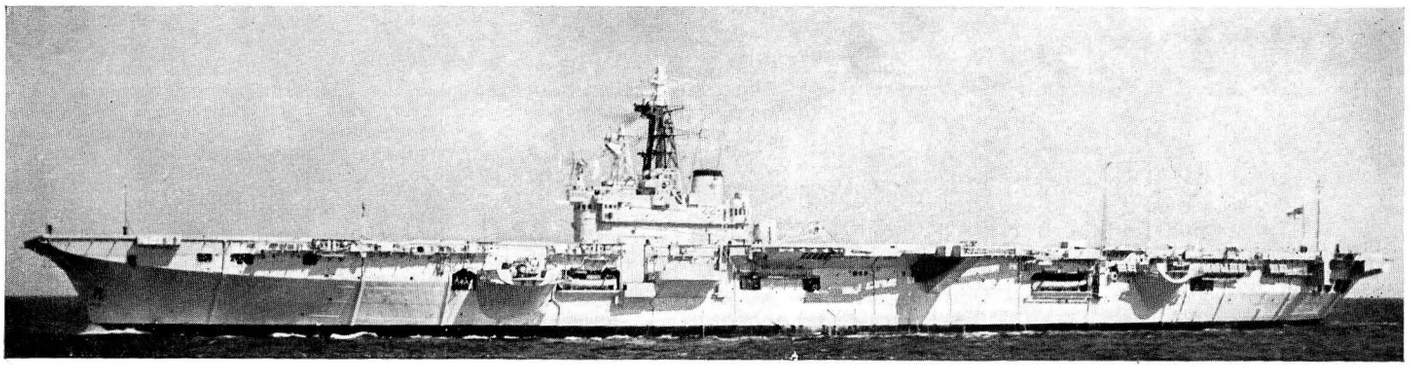


ALGONQUIN



"RIVER" *Class* (Some have deckhouse)

AIRCRAFT CARRIER (CVL)



BONAVENTURE (port broadside) 1959, *Royal Canadian Navy, Official*

1 Modified "Majestic" Class

BONAVENTURE (ex-*Powerful*)

No.:	CVL 22
Builders:	Harland & Wolff, Ltd., Belfast
Laid down:	27 Nov. 1943
Launched:	27 Feb. 1945
Completed:	17 Jan. 1957
Displacement:	16,000 tons *standard* (20,000 tons *full load*)
Dimensions:	Length: 630 (*pp.*), 704⅝ (*o.a.*) feet. Beam (hull): 80 feet. Width: 112½ feet, 128 (*o.a.*) feet including angled deck and mirrors. Draught: 25 feet
Guns:	8—3 inch (U.S. type new pattern twin mounts), AA. or d.p.; 4—6 pdr. saluting
Aircraft:	34 (capacity) to carry Banshee (F2H) and Tracker (S2F) aircraft
Machinery:	Parsons single-reduction geared turbines. 2 shafts. S.H.P.: 42,000= 24·5 kts. (designed)
Boilers:	4 Admiralty 3-drum type. Steam pressure at engines: 350 lb./sq. in
Complement:	1,370 (war)

General Notes

First aircraft carrier owned by the Royal Canadian Navy, Air recognition number 22 painted on flight deck. Type, Designator and Hull No.: CVL 22. Redesignated RRSM instead of RML in 1957; and CVL instead of RRSM in Jan. 1960. The designator CVL 22 follows the new NATO code and signifies a small ASW aircraft carrier.

Construction Notes

Arrangements were made in 1952 for the purchase by Canada of the suspended aircraft carrier *Powerful* from Great Britain for completion to replace the *Magnificent* returned to the Royal Navy.

The *Powerful* was suspended in May 1946, but construction was resumed in July 1952, and she was renamed *Bonaventure*. She was fitted with the new angled deck.

The *Powerful* was redesigned to handle jet aircraft, plans being revised to provide for a completely modern aircraft carrier: the modification included the strengthening of the flight deck and elevators and improvements in deck arrester gear, and the new British steam catapult, capable of launching jet and heavy types of aircraft was fitted.

Class Notes

The *Magnificent* was officially returned to the Royal Navy, from which she had been on loan since 1946, on 14 June 1957.

Photograph Notes

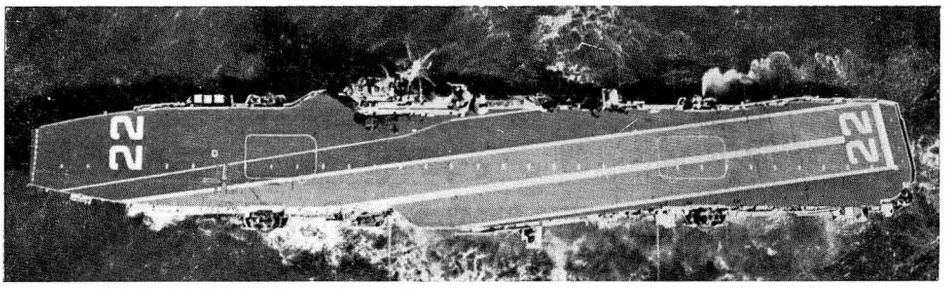
Starboard bow view in 1957-58 edition. Starboard broadside view and port bow view in 1958-59 edition. Starboard quarter oblique aerial view, showing angled deck, in the 1958-59 to 1960-61 editions.

Notes to Drawing

Starboard elevation and plan. Redrawn in 1959. Scale: 128 feet=1 inch.



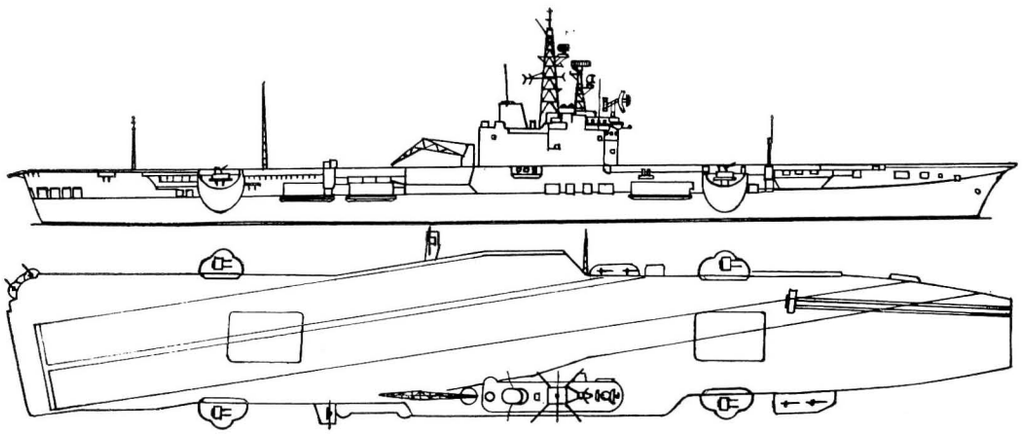
BONAVENTURE (port bow oblique, aerial view, showing angled deck) 1961, *Royal Canadian Navy, Official*



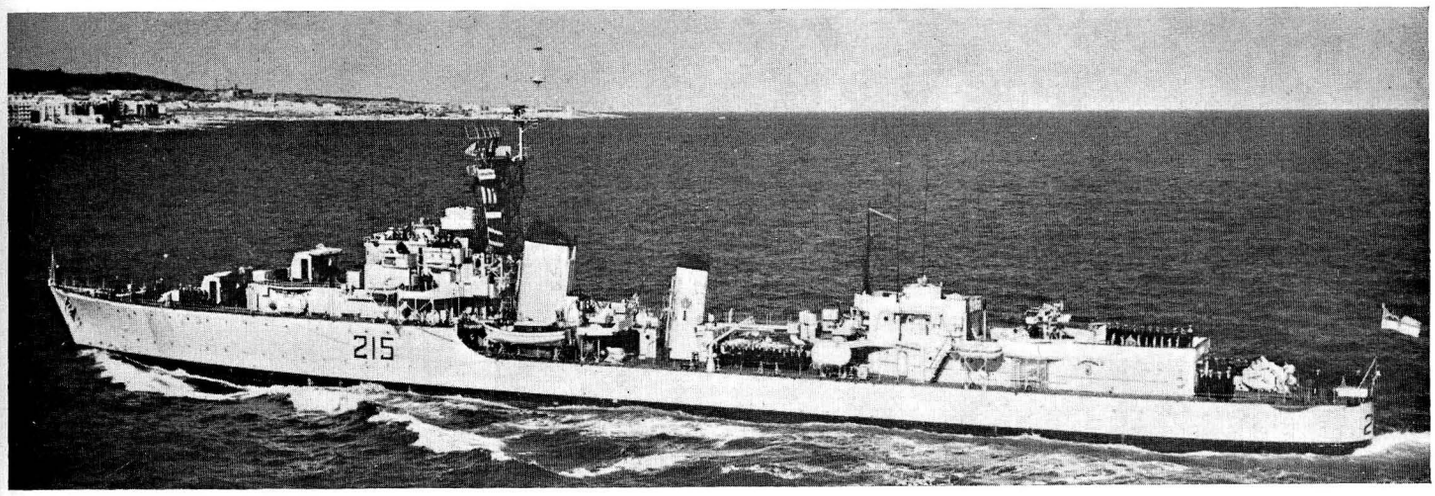
BONAVENTURE (aerial plan showing flight deck) *Royal Canadian Navy, Official*

Recent Disposals of Cruisers

The cruisers *Ontario* (ex-*Minotaur*) and *Quebec* (ex-*Uganda*) were towed to Japan for scrapping towards the end of 1960.



DESTROYERS (DDE)



HAIDA

1960, *Royal Canadian Navy, Official*

7 Improved " Tribal " Class

GROUP II (Built in Canada)
4 by *Halifax Shipyards, Ltd., Halifax*

ATHABASKAN **MICMAC**
CAYUGA **NOOTKA**

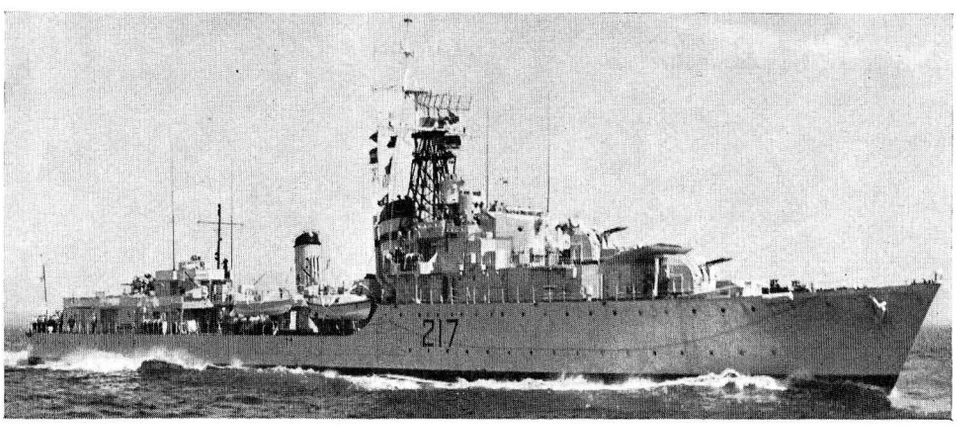
GROUP I (Built in Great Britain)
3 by *Vickers-Armstrongs, Ltd. (Tyne)*

HAIDA **HURON** **IROQUOIS**

Displacement:	2,200 tons *standard* (2,800 tons *full load*) officially revised figures
Dimensions:	355½ (*pp.*), 377 (*o.a.*) × 37½ × 9½, 15⅛ (*aft full load*) feet
Guns:	4—4 inch, 2—3 inch, 4—40 mm. AA.
Tubes:	4—21 inch
A/S weapons:	2 Squid triple-barrelled depth charge mortars.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 44,000=36·5 kts. designed (32 kts. sea speed)
Boilers:	3 Admiralty 3-drum type
Oil fuel:	520 tons
Radius:	1,700 miles at 20 kts.
Complement:	240

No.	*Name*	*Builders*
DDE 219	*Athabaskan*	Halifax Shipyards, Ltd., Halifax
DDE 218	*Cayuga*	Halifax Shipyards, Ltd., Halifax
DDE 215	*Haida*	Vickers-Armstrongs, Ltd., Tyne
DDE 216	*Huron*	Vickers-Armstrongs, Ltd., Tyne
DDE 217	*Iroquois*	Vickers-Armstrongs, Ltd., Tyne
DDE 214	*Micmac*	Halifax Shipyards, Ltd., Halifax
DDE 213	*Nootka*	Halifax Shipyards, Ltd., Halifax

Name	*Laid down*	*Launched*	*Completed*
Athabaskan	15 May 1944	4 May 1946	20 Feb. 1948
Cayuga	7 Oct. 1943	28 July 1945	20 Oct. 1947
Haida	29 Sep. 1941	25 Aug. 1942	18 Sep. 1943
Huron	15 July 1941	25 June 1942	28 July 1943
Iroquois	19 Sep. 1940	23 Sep. 1941	10 Dec. 1942
Micmac	20 May 1942	18 Sep. 1943	14 Sep. 1945
Nootka	20 May 1942	26 Apr. 1944	9 Aug. 1946



IROQUOIS

1961, *Royal Canadian Navy, Official*

General Notes
All these ships have been refitted and fully modernised. *Cayuga*, *Haida*, *Huron*, *Iroquois* and *Micmac* completed the conversion in 1953-54, and *Athabaskan* and *Nootka* were completed in 1954-55. All ships of the class now have uniform armament (see above) and a new short aluminium lattice foremast and funnel caps. *Athabaskan* was extensively refitted in 1958.

Second World War loss
Athabascan (first ship of the name, built in Great Britain).

Photograph Notes
Photographs of *Micmac* in the 1954-55 to 1957-58 editions, of *Cayuga* in the 1955-56 to 1958-59 editions, of *Athabaskan* in the 1956-57 to 1958-59 editions, and of *Huron* in the 1957-59, 1959-60 and 1960-61 editions.

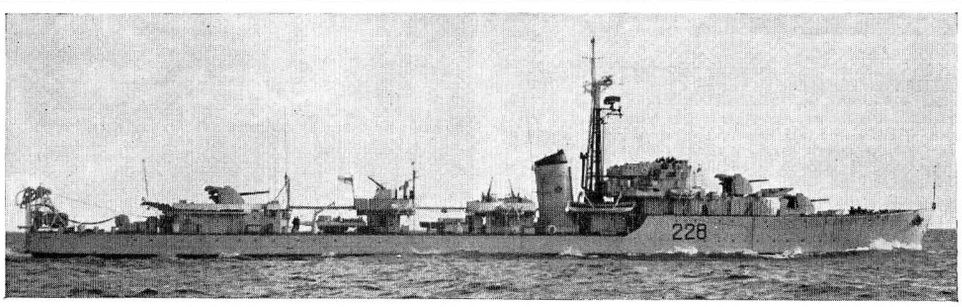
Appearance Notes
In general, as converted, they are all rigged similar to *Haida* and were refitted basically alike except for some slight differences in their gun direction equipment and bridge arrangements.

1 " C " Class

CRUSADER

No.:	DDE 228
Builders:	John Brown & Co. Ltd. Clydebank
Laid down:	15 Nov. 1943
Launched:	5 Oct. 1944
Completed:	26 Nov. 1945
Displacement:	1,730 tons *standard* (2,560 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅝ × 13⅝ (*mean*), 15⅝ (*aft full load*) *feet*
Guns:	3—4·5 inch, 6—40 mm. AA. Bofors
Tubes:	4—21 inch (quadrupled)
Machinery:	Parsons geared turbines. 2 shafts, S.H.P.: 40,000=36·75 kts.(designed.) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	165 (peace), 250 (war)

Notes
Lent to the R.C.N. in 1945. Permanently transferred from Great Britain on 16 Sep. 1951. Sister ship *Crescent* was converted into a fast anti-submarine frigate or destroyer escort similar to *Algonquin*, see following page. *Crusader* was taken in hand for major alterations in dockyard at Point Edward Naval Base, Sydney, N.S., in 1961, including the installation of a helicopter platform and production-type variable depth sonar, but in June 1962 it was reported that modernisation work has been discontinued and at present plans for this ship are indefinite. Her former experimental VDS equipment was transferred to *Crescent*, see following page.



CRUSADER (experimental variable depth sonar handling gear on stern)

1960, *R.C.N., Official*

1 " V " Class

SIOUX (ex-*Vixen*)

No.:	DDE 225
Builders:	J. Samuel White & Co. Ltd., Cowes
Laid down:	31 Oct. 1942
Launched:	14 Sep. 1943
Completed:	5 Mar. 1944
Displacement:	1,730 tons *standard* (2,530 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅝ × 13 feet
Guns:	2—4·7 inch, 6—40 mm. AA.
Tubes:	4—21 inch (quadrupled)
A/S weapons:	2 Squid triple-barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts
Complement:	230



SIOUX

1959, *R.C.N., Official*

Notes
Transferred from Great Britain early in 1944. Destroyer partly converted to fast anti-submarine escort. Now has funnel cap. Sister ship *Algonquin* has been completely converted similar to the British anti-submarine frigates of the " R " class, but with gun on forecastle deck level forward of bridge see following page.

DESTROYER ESCORTS (DDE) Anti-Submarine Frigate Type



KOOTENAY

1959, *Royal Canadian Navy, Official*

2 "Annapolis" Class

ANNAPOLIS **NIPIGON**

4 "Mackenzie" Class

MACKENZIE **SASKATCHEWAN**
QU'APPELLE **YUKON**

7 "Restigouche" Class

CHAUDIERE **RESTIGOUCHE**
COLUMBIA **ST. CROIX**
GATINEAU **TERRA NOVA**
KOOTENAY

Displacement:	2,366 tons *standard* (2,900 tons *full load*) officially revised figures
Dimensions:	366 (*o.a.*) × 42 × 13¼ (*mean*) feet
Guns:	2—3 inch, 70 cal. AA. (twin) forward, 2—3 inch, 50 cal. AA. (twin) aft
A/S weapons:	2 triple-barrelled depth charge mortars (Limbos) in after well
Tubes:	Improved homing torpedoes
Machinery:	Geared turbines. 2 shafts. S.H.P.: 30,000=28 kts. (official figure)
Boilers:	2 water tube
Complement:	210 (12 officers, 198 men) peacetime

General Notes

These ships are basically similar to the destroyer escorts of the "St. Laurent" class, but there is a considerable difference in the bridge structure, which is higher at the break of forecastle and drops down to a new breakwater deck on which the new British 3 inch, 70 calibre twin gun, in enclosed turret is mounted, and over which it has better vision. There is also a difference in the shelter deck superstructure and fittings abaft the funnel, wing platforms on the foremast, director and look-out wings abaft the bridge, and improved sonar gear. The *Restigouche*, the first of the class bearing her name, cost $23,000,000.

Class Notes

The last two ships of the original "Mackenzie" class, *Annapolis* and *Nipigon*, which will incorporate variable depth sonar, cutaway stern (see photo), and helicopter platforms, have been separated into a new class.

Building Notes

* *Saskatchewan* was launched by Victoria Machinery Depot Co. Ltd., but completed by Yarrow's Ltd.

Because of the unit construction method used for the new DEs, it is almost impossible to give a true "laid down" date. Thus, a ship may be under construction for three or four months before anything appears on the ways. The "work commencement" schedule for ships of the "Repeat Restigouche" or "261" class is as shown in the table.

Appearance Notes

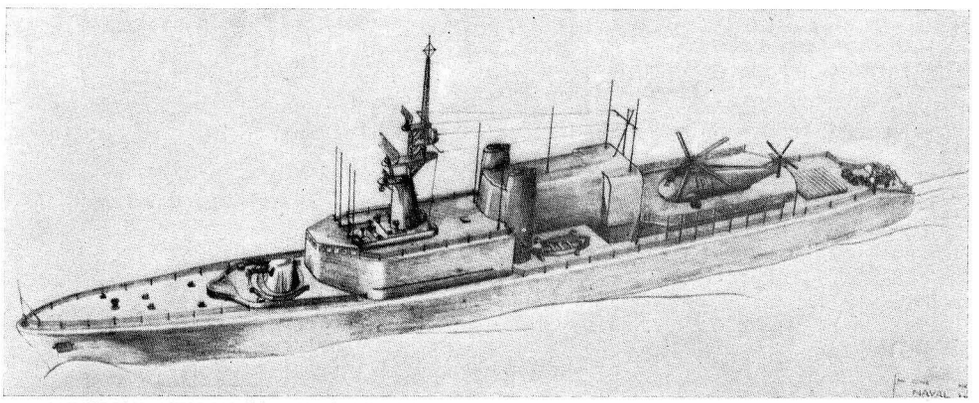
These ships can easily be distinguished from those of the "St. Laurent" class by the enclosed gunhouse forward, director before the foremast, different bridge and other variations summarised under *General Notes* above.

Photograph Notes

Starboard broadside view of *Restigouche* in the 1958-59 edition.

No.	*Name*	*Builders*
DDE 235	*Chaudiere*	Halifax Shipyards Ltd., Halifax
DDE 236	*Gatineau*	Davie Shipbuilding & Repairing
DDE 256	*St. Croix*	Marine Industries Ltd., Sorel, Q.
DDE 257	*Restigouche*	Canadian Vickers Ltd., Montreal
DDE 258	*Kootenay*	Burrard Dry Dock & Shipbuilding
DDE 259	*Terra Nova*	Victoria Machinery Depot Co.
DDE 260	*Columbia*	Burrard Dry Dock & Shipbuilding
DDE 261	*Mackenzie*	Canadian Vickers Ltd., Montreal
DDE 262	**Saskatchewan*	Victoria Machinery (and Yarrow)
DDE 263	*Yukon*	Burrard Dry Dock & Shipbuilding
DDE 264	*Qu'Appelle*	Davie Shipbuilding & Repairing
DDE 265	*Annapolis*	Halifax Shipyards Ltd., Halifax
DDE 266	*Nipigon*	Marine Industries Ltd., Sorel, Q.

Name	*Laid down*	*Launched*	*Completed*
Chaudierre	30 July 1953	13 Nov. 1957	14 Nov. 1959
Gatineau	30 Apr. 1953	3 June 1957	17 Feb. 1959
St. Croix	15 Oct. 1954	17 Nov. 1957	4 Oct. 1958
Restigouche	15 July 1953	22 Nov. 1954	7 June 1958
Kootenay	21 Aug. 1952	15 June 1954	7 Mar. 1959
Terra Nova	14 Nov. 1952	21 June 1955	6 June 1959
Columbia	11 June 1953	1 Nov. 1956	7 Nov. 1959
Mackenzie	15 Dec. 1958	25 May 1961	Oct. 1962
Saskatchewan	July 1959	1 Feb. 1961	1963
Yukon	Oct. 1959	27 July 1961	1963
Qu'Appelle	Jan. 1960	2 May 1962	1964
Annapolis	July 1960		1964
Nipigon	Apr. 1960	10 Dec. 1961	1964



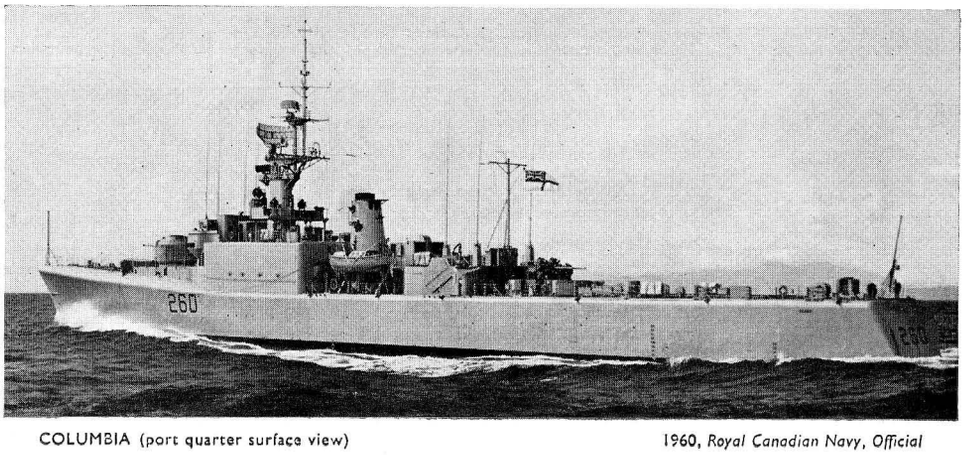
ANNAPOLIS, NIPIGON (New Class). Official drawing

1962, *Royal Canadian Navy, Official*



TERRA NOVA (starboard bow oblique aerial view)

Added 1960, *Royal Canadian Navy, Official*



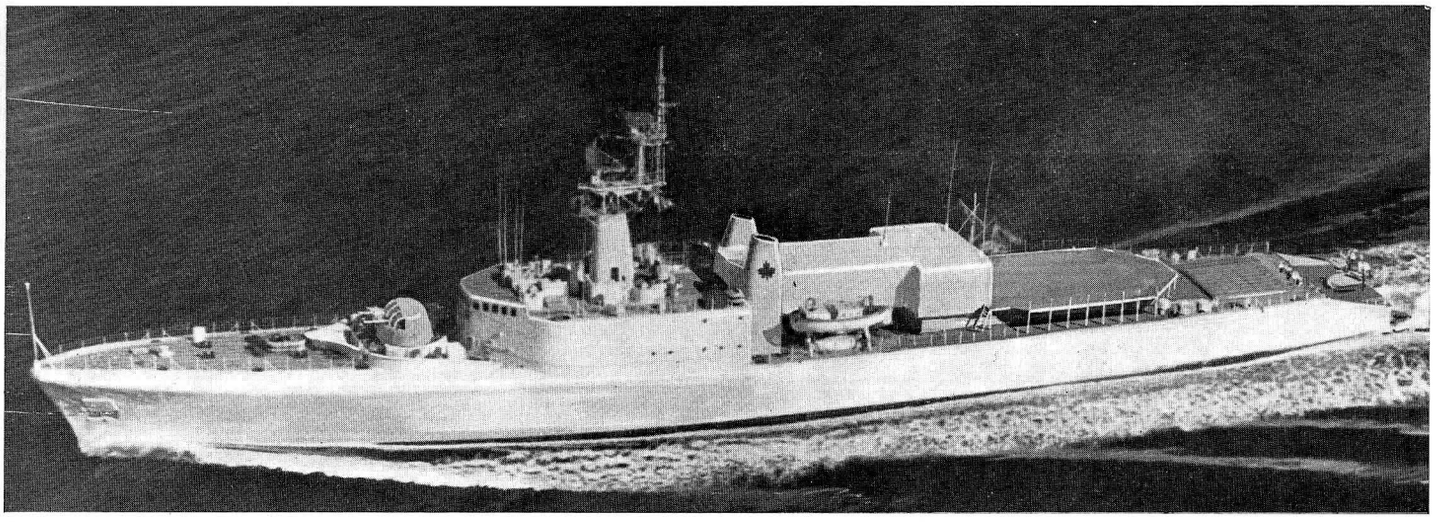
COLUMBIA (port quarter surface view)

1960, *Royal Canadian Navy, Official*

Destroyer Escorts (DDE) Anti-Submarine Frigate Type—*continued*



SKEENA (showing 3-inch, 50 calibre gunshields) 1962, *Royal Canadian Navy, Official*



" St. Laurent " Class. Proposed revision of the design. Note twin funnels to permit forward extension of helicopter hangar 1962, *Royal Canadian Navy, Official*

7 " St. Laurent " Class

ASSINIBOINE **SAGUENAY**
FRASER **ST. LAURENT**
MARGAREE **SKEENA**
OTTAWA

Displacement:	2,263 tons *standard* (2,800 tons *full load*) officially revised figures
Dimensions:	366 (*o.a.*) × 42 × 13½ feet
Guns:	4—3 inch, 50 cal. AA. in twin mountings; 2—40 mm. AA. Bofors (single)
A/S weapons:	2 triple-barrelled depth charge mortars (Limbos) in after well. Homing torpedoes
Machinery:	Geared turbines. 2 shafts. S.H.P.: 30,000 = 28·5 kts. (official figure)
Boilers:	2 water tube
Complement:	290 (20 officers, 270 men) wartime

General Notes

Officially classed as major warships and as such were the first to be designed completely in Canada. These anti-submarine escort vessels or frigates of a high-speed type were built primarily for the detection and destruction of modern fast submarines, and in evolving their design much assistance was received from the Royal Navy and the United States Navy. In function the vessels supersede the frigates and corvettes of the last war, and like the corvettes their design was worked out so that in the event of emergency they could be produced rapidly and in quantity. In speed, manoeuvrability and weapons the ships fulfil all the requirements of their class for modern sea warfare. The design provided for flush deck, low bridge, considerable use of aluminium instead of steel for the superstructure, fittings and furniture and compartmented hull.

All were designated DDE instead of DE in 1954. The originally estimated cost was $15,000,000 each. Revised cost officially stated to be $23,000,000 each.

Anti-Submarine Notes

The ships have long range asdic to probe for submarines and improved armament and electronic equipment as submarine chasers.

Engineering Notes

Propelling machinery is of British design. Yarrow & Co. Ltd., Scotstoun, Glasgow, received an order from Canadian Vickers for the supply of a complete set of machinery for the *St. Laurent*, the other ships being supplied with similar machinery manufactured in Canada. The main turbines and condensers are of English Electric design.

Reconstruction Notes

All seven ships of the " St. Laurent " class will be fitted with helicopter platforms and VDS. *St. Laurent* was equipped with VDS late in 1961, platform to be added later. Twin funnels will be stepped to permit the forward extension of the helicopter hangar. Gunhouses are of fibre glass.

Original Construction Notes

Design work started in 1949. The original completion date for 14 vessels was scheduled for 1955, but only the first seven were completed by 1957 with the remaining seven (of the " Restigouche" class, see preceding page) ready by 1958-60. Construction was delayed because the ships were subjected to constant changes due to international development in submarines and torpedoes.

Photograph Notes

Starboard quarter view of *St Laurent* and broadside view of *Ottawa* as first completed in 1957-58 edition. Starboard quarter oblique aerial view of *Ottawa*, showing helicopter platform laid on aft, in the 1958-59 and 1959-60 editions. Port bow oblique aerial view of *Saguenay* in the 1957-58 to 1959-60 editions. Port broadside aerial view of *Margaree* in the 1958-59 to 1961-62 editions.

Design Improvement Notes

New features of the " Mackenzie " class include improved habitability through design change and reduced complement; vinyl-asbestos tile deck covering, instead of linoleum, throughout the ship; improved air conditioning; replacement of hot fresh water tanks by instantaneous heaters; extension of pre-wetting system (to counter radio-active fallout) to cover entire exposed area of the ship; standard water-tight doors replaced by new type called " Dutch " door; heated wipers for bridge windows redesigned to cope with extreme temperatures in northern waters; and propellers of new design to reduce cavitation.

Helicopter Notes

A prefabricated helicopter platform (first installed in H.M.S. *Buckingham*, see next page) was fitted over the after well in *Ottawa* in Aug. 1957 to test the feasibility of operating helicopters from anti-submarine vessels of this class; but this experimental flight apron was subsequently removed.

Gunnery Notes

The 3-inch, 50 calibre anti-aircraft twin gun mountings were originally installed without shields, but gun shields have now been fitted. The gun housings are of fibre glass.

Appearance Notes

These ships are now wearing the very light grey, almost white, paint which is coming into general use in H.M. Canadian Ships.

Acknowledgment Notes

All the above details and photographs were officially furnished by courtesy of the Canadian Department of Nation Defence in Ottawa.

Building Notes

* *Fraser* was launched by Burrard Dry Dock Co. Ltd., but completed by Yarrows Ltd.

No.	*Name*	*Builders*
DDE 205	*St. Laurent*	Canadian Vickers, Ltd., Montreal
DDE 206	*Saguenay*	Halifax Shipyards, Ltd., Halifax
DDE 207	*Skeena*	Burrard Dry Dock & Shipbuilding
DDE 229	*Ottawa*	Canadian Vickers, Ltd., Montreal
DDE 230	*Margaree*	Halifax Shipyards, Ltd., Halifax
DDE 233	**Fraser*	Yarrows, Ltd., Esquimalt, B.C.
DDE 234	*Assiniboine*	Marine Industries, Ltd., Sorel, Q.

Name	*Laid down*	*Launched*	*Completed*
St. Laurent	22 Nov. 1950	20 Nov. 1951	29 Oct. 1955
Saguenay	4 Apr. 1951	30 July 1953	15 Dec. 1956
Skeena	1 June 1951	19 Aug. 1952	30 Mar. 1957
Ottawa	8 June 1951	29 Apr. 1953	10 Nov. 1956
Margaree	12 Sep. 1951	29 Mar. 1956	5 Oct. 1957
Fraser	11 Dec. 1951	19 Feb. 1953	28 June 1957
Assiniboine	19 May 1952	12 Feb. 1954	16 Aug. 1956

GENERAL PURPOSE FRIGATES

8 New Construction

Displacement:	3,400 tons *full load* (approx.)
Dimensions:	400 (approx.) × 46 feet
Guns:	5 inch mounting
Machinery:	Designed speed = 27 kts.
Complement:	200 officers and men (approx.).

Notes

Statement by the Minister of National Defence on 11 Apr. 1962:—"Approval has been given for the construction of eight warships of advanced design. These ships will replace existing ships as they reach the end of their useful lives in the next few years.

" The warships will be built in Canadian shipyards, the first one being laid down late next year and the others to follow progressively. These ships are being designed by Royal Canadian Navy technical staffs and will be known as general purpose frigates because they will be equipped and armed for a variety of tasks. They will be slightly larger in size than the present destroyer escorts and will perform essentially the same function as the " Tribal " class destroyers have in the past. The ships will have submarine detection equipment and anti-submarine armament of the most modern type, guided missile systems for air defence, and a gun armament for surface-to-surface action and shore bombardment. The general purpose frigate will thus have a first class anti-submarine capability and also be able to perform a variety of other duties."

SUBMARINE (SS)

1 Ex-U.S. "Balao" Class (former Radar Picket)

GRILSE (ex-U.S.S. *Burrfish*, SSR 312, ex-*Amillo*)

Pennant No.:	SS 71
Builders:	Electric Boat Co., Groton
Launched:	18 June 1943
Completed:	14 Sep. 1943
Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½ × 27 × 17 feet
Tubes:	6—21 inch
Machinery:	Diesels. B.H.P.: 6,500=20 kts. (*surface*). Electric motors. S.H.P.: 4,610=10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	7 officers, 72 men (additional accommodation for 2 officers, 9 men)

General Notes

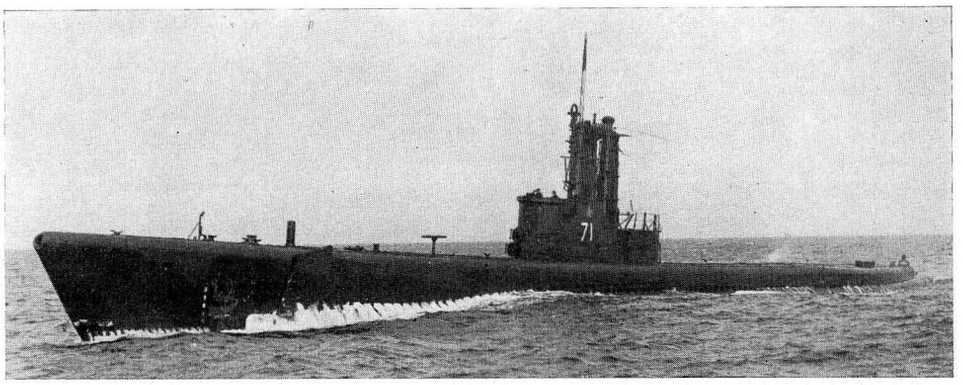
Former United States submarine of the converted "Balao" class. Loaned to the Royal Canadian Navy for five years, with the option of renewal. Commissioned as H.M.C.S. *Grilse* at New London, Connecticut, on 11 May 1961. Based at Esquimalt, B.C. to carry out anti-submarine warfare training duties with aircraft and ships of the Pacific Maritime Command. Antennae and equipment associated with her former radar picket duties have been removed, and no deck gun is mounted.

R.N. Squadron Notes

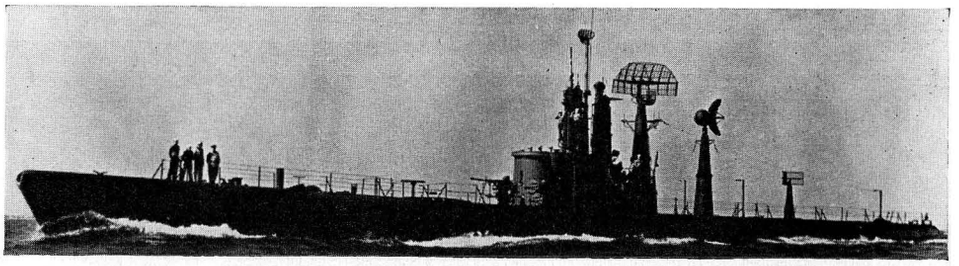
Submarines serving with the Sixth Submarine Squadron of the Royal Navy at Halifax for anti-submarine training of ships of the Royal Canadian Navy and Canadian Maritime Air Forces are manned, in part, by R.C.N. personnel.

New Construction Notes

The procurement of three modern submarines for the Royal Canadian Navy was announced by the Minister of National Defence on 11 Apr. 1962. Subject to satisfactory completion of negotiations with the British government, all three submarines will be of the "Oberon" class built in Great Britain.



GRILSE (after refit and transfer) 1962, *Royal Canadian Navy Official*



GRILSE (as U.S.S. *Burrfish*, before refit and transfer to Canada) *United States Navy, Official*

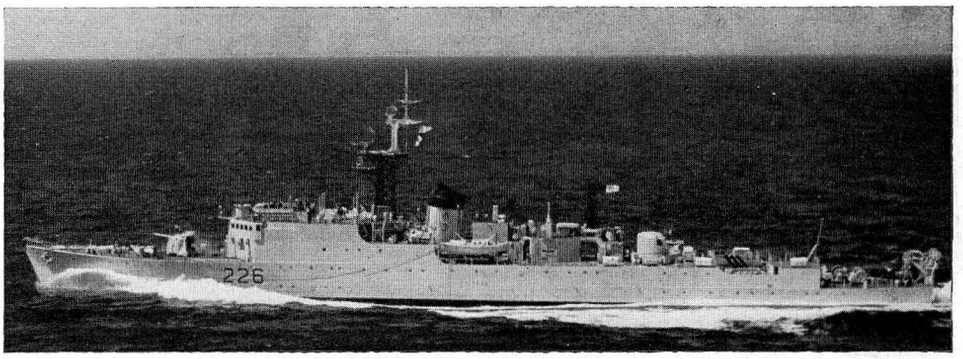
ANTI-SUBMARINE FRIGATES (DDE) Converted Destroyers

CRESCENT

No.:	DDE 226
Builders:	John Brown & Co. Ltd., Clydebank
Laid down:	16 Sep. 1943
Launched:	20 July 1944
Completed:	21 Sep. 1945
Displacement:	2,100 tons *standard* (2,700 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅝ × 13½ (*aft full load*) feet
Guns:	2—4 inch forward, 2—3 inch aft (now in shield), 2—40 mm. Bofors AA.
A/S weapons:	1 Limbo three-barrelled depth charge mortar, 3 launchers for Mark 43 homing torpedoes
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	250

General Notes

Crescent was originally a destroyer of the "C" class lent to the Royal Canadian Navy in 1945 and permanently transferred from Great Britain in 1951; she was fully converted into a fast anti-submarine frigate or destroyer escort by Esquimalt Dockyard in 1956. She was extensively refitted in 1958, and modified considerably in 1960 when one Limbo was removed to compensate for the weight of the variable depth sonar installed, shield fitted to 3 inch mounting, and torpedo launchers added.



CRESCENT (variable depth sonar added, one Limbo removed) 1960, *Royal Canadian Navy, Official*

Anti-Submarine Notes

The experimental variable depth sonar equipment formerly installed in *Crusader* was transferred to *Crescent*, but this was replaced in 1961 by prototype equipment.

Appearance Notes

Crescent is generally similar to *Algonquin* except that the main armament is mounted *vice versa*, i.e. 4 inch guns are mounted forward and 3 inch guns in aft position.

ALGONQUIN (ex-*Valentine*, ex-*Kempenfelt*)

No.:	DDE 224
Builders:	John Brown & Co. Ltd., Clydebank.
Laid down:	8 Oct. 1942
Launched:	2 Sep. 1943
Completed:	28 Feb. 1944
Displacement:	2,100 tons *standard* (2,700 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅝ × 13½ (*aft full load*) feet
Guns:	2—4 inch aft, 2—3 inch forward, 2—40 mm. Bofors AA.
A/S weapons:	2 Squid triple barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	230

General Notes

Algonquin was originally a destroyer of the "V" class transferred from Great Britain in 1944; she was fully converted into a fast anti-submarine frigate or destroyer escort by Esquimalt Dockyard in 1954.

Classification Notes

Algonquin and *Crescent* were officially designated "Destroyer Escorts—Algonquin Class (DDE)" in 1956



ALGONQUIN 1960, *Royal Canadian Navy, Official*

Appearance Notes

Algonquin, as compared with *Crescent*, has no raked funnel cap, and she has her 4 inch guns aft and 3 inch guns forward, instead of *vice versa* as in *Crescent* (see above). She now has a shield to her 3 inch guns.

ANTI-SUBMARINE FRIGATES (FFE)

18 Modernised " River " Type Designated Frigate Escorts

ANTIGONISH
BEACON HILL
BUCKINGHAM (ex-*Royal Mount*)
CAP DE LA MADELINE
FORT ERIE (ex-*La Tuque*)
INCH ARRAN
JONQUIERE
LA HULLOISE
LANARK
LAUZON (ex-*Glace Bay*)
NEW GLASGOW
NEW WATERFORD
OUTREMONT
STE. THERESE
STETTLER
SUSSEXVALE (ex-*Valdorian*)
SWANSEA
VICTORIAVILLE

Displacement:	1,570 tons *standard* (2,360 tons *full load*) officially revised figures
Dimensions:	301½ (*o.a.*) × 36½ × 16 (*aft full load*) feet
Guns:	2—4 inch, 6—40 mm. AA.
A/S weapons:	2 Squid triple-barrelled depth charge mortars
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. Sea speed 19 kts
Boilers:	2 Admiralty 3-drum type
Oil fuel:	720 tons
Radius:	9,600 miles at 12 kts.
Complement:	140

General Notes

Originally of similar design to British " River " class. Al built in Canadian shipyards. All of this class, including three vessels transferred to Norway were modernised and reconstructed to flush deckers (completed anti-submarine conversion 1953-58.) *La Hulloise* commissioned after conversion on 9 Oct. 1957, *Swansea* 14 Nov. 1957, *Beacon Hill* 21 Dec. 1957 and *New Waterford* 31 Jan. 1958). All redesignated FFE (instead of PF) in 1953.

Reconstruction Notes

In the original form the forecastle deck extended about two-thirds of the length with low freeboard aft, but it has now been extended right aft, the extension being wall-sided. The extra space is devoted to improved habitability and to the equipment for detecting and fighting submarines, including some of the generating machinery which was changed from three steam and one diesel to two steam and two diesel, of greatly increased capacity. The former comparatively small bridge structure has been replaced by a much larger one, almost totally enclosed, demanding a taller funnel to clear it. The new gear has also necessitated a much bigger mast although still a tripod. The propelling machinery has been thoroughly overhauled and some improvement effected. The hull forward has been strengthened against ice, and all the accommodation improved. This reconstruction to tackle modern submarines is a striking example of what can be done to modernise " River " class frigates.

Helicopter Notes

Buckingham, recently employed as a recruit training ship was in 1957 equipped with a prefabricated helicopter platform fitted above the quarter deck, for A.S.W. reconnaissance and to test the feasibility of operating helicopters from anti-submarine escort vessels of this size. The deck was subsequently removed and installed in the new destroyer escort *Ottawa*, see previous page.

Photograph Notes

Photographs of *Stettler* and *Sussexvale* before the addition of the midship deckhouse appear in the 1956-57 and 1957-58 editions. A photograph of *Beacon Hill* before alteration appears in the 1958-59 and 1959-60 editions, and of *Antigonish* in the 1958-59 to 1960-61 editions.

Transfer Notes

Penetang, *Prestonian* and *Toronto* were lent to Norway in 1956, being renamed *Draug*, *Troll* and *Garm*, respectively, and were transferred outright to Norway on 27 June 1958.

Training Notes

The seven frigates of the Fourth Canadian Escort Squadron have been fitted with a midship deckhouse to provide classrooms and messing facilities for officer cadets under sea training. The ships thus fitted are *Antigonish*, *Beacon Hill*, *Jonquiere*, *New Glasgow*, *Ste. Therese*, *Stettler* and *Sussexvale*. The anti-submarine capabilities of the ships have not been affected.

Weather Ship Notes

All three of the Canadian " River " Type Frigates (FFE) serving as Weather Ships, the *St. Catherines*, *St. Stephen* and *Stonetown*, formerly on loan to the Department of Transport fleet, were later transferred outright to the Canadian Marine Service of the Department of Transport, now the Canadian Coast Guard. See photograph and full particulars in the 1958-59 edition, and in the Canadian Coast Guard section on following pages.

No.	*Name*	*Launched*
FFE 301	*Antigonish*	10 Feb. 1944
FFE 303	*Beacon Hill*	6 Nov. 1943
FFE 314	*Buckingham*	28 Apr. 1944
FFE 317	*Cap de la Madeleine*	13 May 1944
FFE 312	*Fort Erie*	27 May 1944
FFE 308	*Inch Arran*	6 June 1944
FFE 318	*Jonquiere*	28 Oct. 1943
FFE 305	*La Hulloise*	29 Oct. 1943
FFE 321	*Lanark*	10 Dec 1943
FFE 322	*Lauzon*	10 June 1944
FFE 315	*New Glasgow*	5 Mar. 1943
FFE 304	*New Waterford*	3 July 1943
FFE 310	*Outremont*	3 July 1943
FFE 309	*Ste. Therese*	16 Oct. 1943
FFE 311	*Stettler*	10 Sep. 1943
FFE 313	*Sussexvale*	12 July 1944
FFE 306	*Swansea*	19 Dec. 1942
FFE 320	*Victoriaville*	23 June 1944



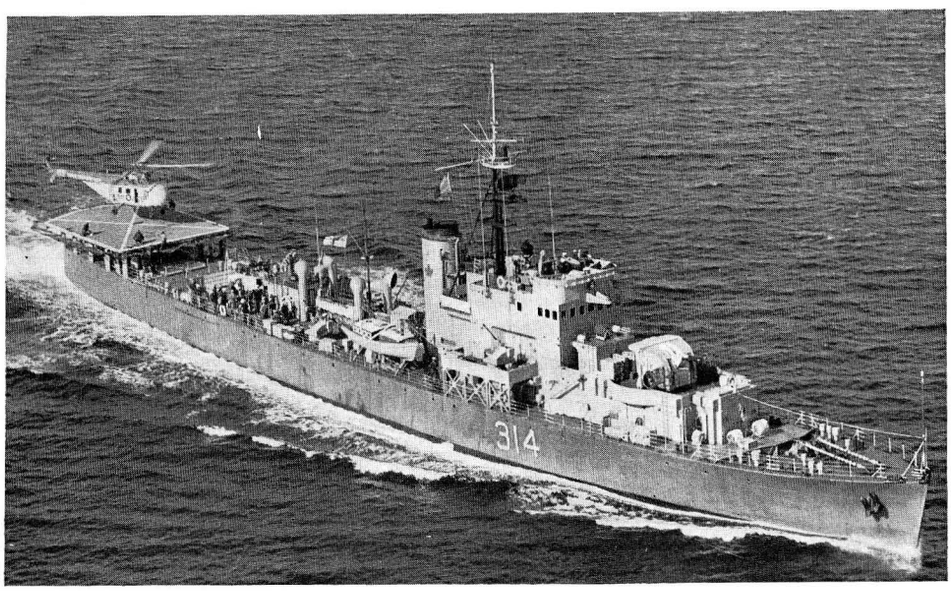
NEW GLASGOW (with midship deckhouse) — 1962, *Royal Canadian Navy, Official*



INCH ARRAN (no midship deckhouse) — 1961, *Royal Canadian Navy, Official*

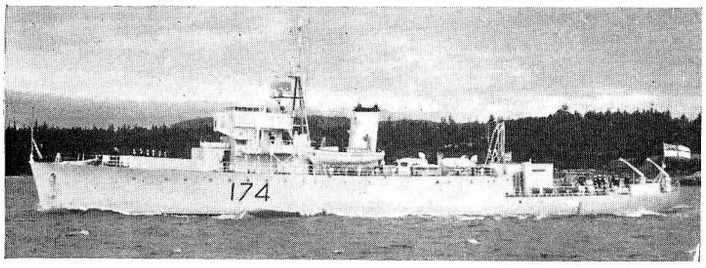


SUSSEXVALE (deckhouse abaft mainmast) — 1960, *Royal Canadian Navy, Official*



BUCKINGHAM (helicopter flight deck aft) — 1957, *Royal Canadian Navy, Official*

SURVEY SHIPS (AGH), ex-Coastal Escorts



OSHAWA — 1959, *Royal Canadian Navy, Official*

3 Former "Algerine" Class Ocean Minesweepers

	FORT FRANCES	NEW LISKEARD	OSHAWA
Displacement:	1,040 tons *standard* (1,335 tons *full load*)		
Dimensions:	225 (*o.a.*) × 35 7/12 × 11 (*max.*) feet		
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,000 = 16·5 kts.		
Boilers:	2, of 3-drum type		
Complement:	85		

General Notes

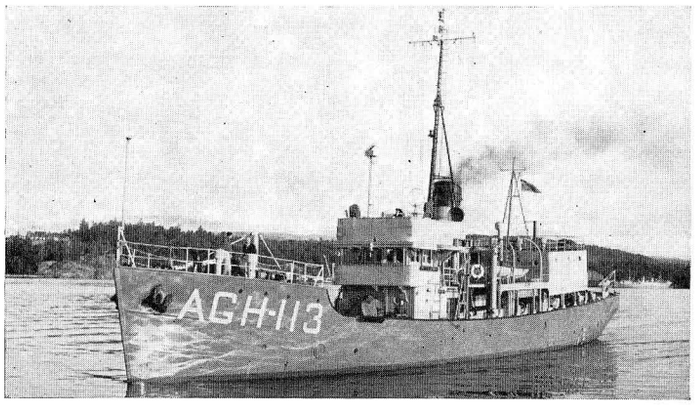
All built by Port Arthur Shipbuilding Co., Port Arthur, Ontario. *Fort Frances*, AGH 170, was launched on 30 Oct. 1943, *New Liskeard*, AGH 168, on 14 Jan. 1944, and *Oshawa*, AGH 174, on 10 June, 1943. *New Liskeard*, formerly employed as sea-going training ship, was subsequently used for Bathychermeographic duties at Halifax. *Kapuskasing* was temporarily lent to Dept. of Mines and Technical Surveys. *Oshawa* is now an Oceanic Research Ship on the West coast. *Fort Frances*, *New Liskeard* (used for variable depth sonar experimental trials) and *Oshawa* formerly rated as Ocean Minesweepers (A.M.), but all re-designated Coastal Escorts (FSE) in 1933, were refitted as surveying vessels and redesignated AGH in 1959.

Recent Disposals

Portage, *Rockcliffe* and *Sault Ste. Marie* were discarded in 1959. *Wallaceburg* and *Winnipeg* were transferred to the Belgian Navy on 31 July and 7 Aug 1959, respectively.

New Construction

Funds have been authorised for a new oceanographic research vessel, AGH 171, for the Pacific Naval Laboratory.



WHITETHROAT — 1961, *Royal Canadian Navy, Official*

Former Minelaying Trawler (Controlled Minelayer)

WHITETHROAT

Displacement:	580 tons *standard* (790 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*) × 27½ × 12½ feet
Machinery:	Triple expansion. I.H.P.: 850 = 12·5 kts.
Boiler:	1 cylindrical

General Notes

Pennant No.: AGH 113. Built by Cook, Welton & Gemmel Ltd., Beverley, East Yorks. Laid down on 15 May 1944. Launched on 11 Aug. 1944. Completed on 12 Dec. 1944. Engined by C. D. Holmes. Built in England as a Minelaying Trawler and later classified as a Controlled Minelayer, but under NATO she was listed as a Harbour Mineplanter. Minor changes were made in 1958 so that the ship could be employed on research operations in addition to her normal role. She was redesignated as a Survey Ship (AGH) in 1959.

DIVING DEPOT SHIP (YMT), ex-Coastal Escort



GRANBY — *Added* 1959, *Royal Canadian Navy, Official*

Former "Bangor" Class Fleet Minesweeper

GRANBY

Displacement:	590 tons *standard* (790 tons *full load*)
Dimensions:	162 × 28 × 8½ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 2,000 = 16 kts.
Complement:	60

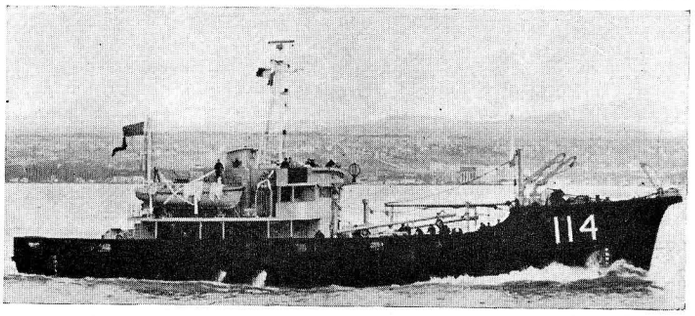
General Notes

Pennant No. YMT 180. Launched on 9 June 1941. Former Fleet Minesweeper (AM) of the Diesel "Bangor" class, redesignated Coastal Escort (FSE) in 1953, and Clearance Diving Depot Ship (YMT) in 1959, after having been employed as a Submarine Rescue Vessel.

Recent Disposals

Of the diesel "Bangor" class, *Brockville* and *Digby* were discarded in 1960. Of the steam "Bangor" class, *Blairmore*, *Fort William*, *Kenora*, *Kentville*, *Medicine Hat*, *Mahone*, *Nipigon*, *Sarnia*, *Swift Current* and *Westmount* were transferred to the Turkish Navy in 1957-58; and *Drummondville*, *Gananoque*. *Goderich*, *Malpeque*, *Milltown*, *Minas*, *Port Hope* and *Red Deer* were discarded in 1959.

CABLE LAYERS (ALC)



BLUETHROAT — *Royal Canadian Navy, Official*

Former Mine and Loop Layer (Controlled Minelayer)

BLUETHROAT

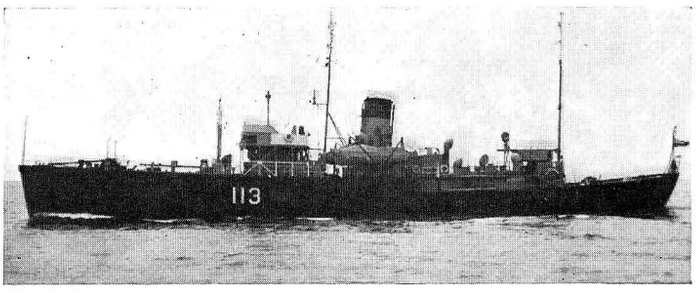
Displacement:	785 tons *standard* (870 tons *full load*)
Dimensions:	150⅔ (*pp.*), 157 (*o.a.*) × 33 × 10 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,200 = 13 kts.

General Notes

Authorised under the 1951 Programme. Built by Geo. T. Davie & Sons Ltd., Lauzon P.Q. Laid down on 31 Oct 1952 Launched on 15 Sep. 1955. Completed on 28 Nov. 1955.

Reclassification Notes

Built as a Mine and Loop Layer, but according to her subsequent grouping under NATO standardised nomenclature she was listed as a Harbour Mineplanter. In 1957 she was rated as a Controlled Minelayer, No. NPC 114. She was redesignated as a Cable Layer (ALC) in 1959. Pennant No. ALC 114.



SACKVILLE — 1961, *Royal Canadian Navy, Official*

1 Former "Flower" Class Corvette

SACKVILLE

Displacement:	1,085 tons *standard* (1,350 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 33 × 14½ feet
Machinery:	Triple expansion. I.H.P.: 2,750 = 16 kts.
Boilers:	2 S.E.

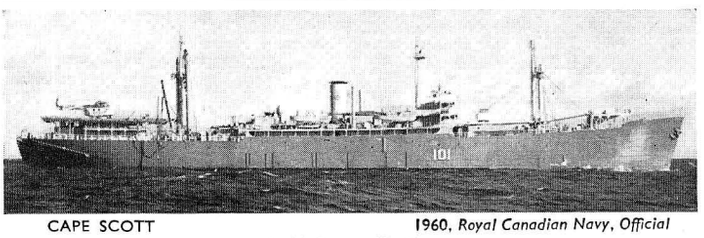
General Notes

Pennant No. ALC 113. Built by St. John Dry Dock Co., St. John, N.B. Launched on 15 May 1941. Completed on 30 Dec. 1941. Ex-"Flower" class frigate (corvette) converted to loop layer. Employed by Naval Research Laboratories for oceanographic work.

Reclassification Notes

Formerly designated No. AN 113, but now known as ALC, having been listed as a cable layer under NATO nomenclature.

ESCORT MAINTENANCE SHIPS (ARE)



CAPE SCOTT — 1960, *Royal Canadian Navy, Official*

2 "Cape" Class

CAPE BRETON (ex-*Flamborough Head*)
CAPE SCOTT (ex-*Beachy Head*, ex-*Vulkaan*, ex-*Beachy Head*)

	Cape Breton	*Cape Scott*
Name:		
Pennant No.:	ARE 100	ARE 101
Builders:	Burrard Dry Dock Co., Vancouver, B.C.	Burrard Dry Dock Co., Vancouver, B.C.
Laid down:	5 July 1944	8 June 1944
Launched:	7 Oct. 1944	27 Sep. 1944
Completed:	25 Apr. 1945	20 Mar. 1945
Accepted:	2 May 1945	27 Mar. 1945
Displacement:	8,580 tons *standard* (11,270 tons *full load*)	
Dimensions:	441½ × 57½ × 20⅝ (*mean at standard displacement*) feet	
Machinery:	Triple expansion. 1 shaft. I.H.P.: 2,500 = 11 kts.	
Boilers:	2 Foster Wheeler	
Complement:	*Cape Breton* 220, *Cape Scott* 270 officers and men	

General Notes

Cape Breton formerly served in the Royal Navy as the escort maintenance ship *Flamborough Head*; but she returned from the United Kingdom in 1951 and was in turn acquired by the Royal Canadian Navy and renamed *Cape Breton* in 1953, serving as a training establishment for technical apprentices at Halifax until 1958 when she sailed for Esquimalt for conversion to her present function. On 16 Nov. 1959 she commissioned on the West Coast as the second mobile repair ship.

Cape Scott served in the Royal Navy as the *Beachy Head* until 1947, when she was lent to Royal Netherlands Navy and renamed *Vulkaan*; but she returned to the Royal Navy in 1950, and was acquired by the Royal Canadian Navy in 1952, being renamed *Cape Scott* in 1953. On 28 Jan. 1959 *Cape Scott* was commissioned at Halifax as the Royal Canadian Navy's first mobile repair ship.

Both ships are equipped with a helicopter landing platform, a decompression chamber for the ship's divers, engineering, electrical and electronic repair shops, diesel engine repair shop, battery shop, sheet metal shop, welding shop, pipe and coppersmith's shop, plate shop and blacksmith's shop.

Provision is made on board the maintenance vessels *Cape Scott* and *Cape Breton* for medical and dental care. Each ship contains an eight-berth hospital, large sick bay, operating theatre, X-ray room, small medical laboratory, dental clinic and dental laboratory.

COASTAL MINESWEEPERS (MCB)



MIRAMICHI 1958, *Royal Canadian Navy, Official*

10 " Bay " Class

CHALEUR **COWICHAN** **FUNDY** **QUINTE**
CHIGNECTO **FORTUNE** **JAMES BAY** **RESOLUTE**
MIRAMICHI **THUNDER**

Displacement: 390 tons *standard* (412 tons *full load*)
Dimensions: 140 (*pp.*), 152 (*o.a.*) × 28 × 7⅞ (*aft*) feet
Guns: 1—40 mm.
Machinery: 2 General Motors V-12 Diesels. 2 shafts. B.H.P.: 2,400=16 kts.
Oil fuel: 52 tons
Radius: 4,500 miles at 11 kts.
Complement: 3 officers, 35 ratings

General Notes

Extensively built of aluminium, including frames and decks. Four of the original 14 vessels of this class were ordered under the 1950 Programme and ten under the 1951 Programme. Named after Canadian straits and bays. Other names considered were *Belle Isle*, *Conso* and *Chantry*. Designation changed from AMC to MCB in 1954.

Class Notes

Chaleur (144), *Chignecto* (156), *Cowichan* (147), *Fundy* (145), *Miramichi* (150), and *Thunder* (153), of the class were transferred to the French Navy in 1954. Six others of this class with the same names have been built for the Royal Canadian Navy to take the place of those transferred.

Recent Disposals

Comox (146) *Gaspe* (143) *Trinity* (157) and *Ungava* (148) were transferred to the Turkish Navy under Mutual Aid arrangements in 1958.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
164	*Chaleur*	Marine Industries	20 Feb. 1956		12 Sep. 1957
160	*Chignecto*	Geo. T. Davie	25 Oct. 1955	17 Nov. 1956	1 Aug. 1957
162	*Cowichan*	Yarrows	10 July 1956	26 Feb. 1957	19 Dec. 1957
151	*Fortune*	Victoria Machinery	24 Apr. 1952	14 Apr. 1953	1 Nov. 1954
159	*Fundy*	Davie Shipbuilding	7 Mar. 1955	14 June 1956	27 Nov. 1956
152	*James Bay*	Yarrows	16 Aug. 1951	12 Mar. 1953	28 Apr. 1954
163	*Miramichi*	Victoria Machinery	2 Feb. 1956	22 Feb. 1957	28 Oct. 1957
149	*Quinte*	Port Arthur	2 May 1952	8 Aug. 1953	15 Oct. 1954
154	*Resolute*	Kingston Shipyard	29 Aug. 1951	20 June 1953	16 Sep. 1954
161	*Thunder*	Port Arthur	1 Sep 1955	27 Oct. 1956	3 Oct 1957

1 Ex-U.S. YMS Type

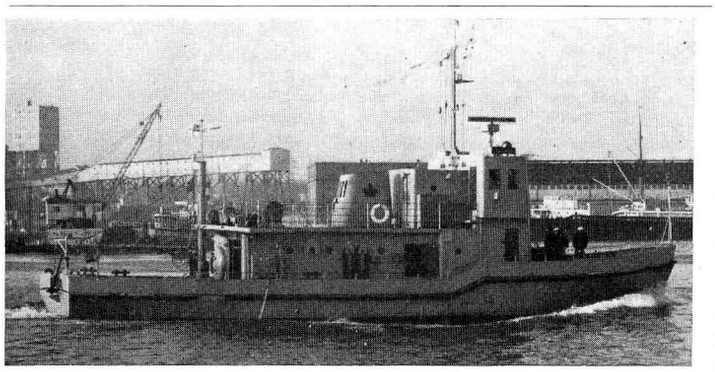
MCB 158 CORDOVA (ex-*YMS* 420)

Displacement: 325 tons *full load*
Dimensions: 136 × 24½ × 8 feet
Machinery: Diesel. B.H.P.: 1,000=15 kts.
Complement: 30

Notes

Ex-U.S. Auxiliary Motor Minesweeper. Built by Henry C. Grebe & Co., Chicago, Ill. in 1943. Purchased and taken over by the Royal Canadian Navy on 3 Dec. 1951. Formerly employed as tender to Vancouver Naval Reserve Division. Redesignated MCB instead of YMS in 1954 and again redesignated MCA in 1957. Placed in reserve 18 Oct. 1956. Rerated as a Coastal Minesweeper Class Support Ship (MCB) in 1959. It was officially stated in Feb. 1962 that she had been inactive for more than a year pending decision as to future use.

DIVING TENDERS (YMT)



YMT 11 1962, *Royal Canadian Navy, Official*

YMT 11

Displacement: 110 tons
Dimensions: 88 × 20 × 4⅜ (*mean*) feet
Machinery: General Motors diesel. B.H.P.: 228=10.75 kts.

Notes

A new diving tender completed for the R.C.N. in Jan. 1962 at Ferguson Industries Ltd., Picton, Nova Scotia. The vessel can dive four men at a time to a depth of 250 feet and is fitted with a recompression chamber.

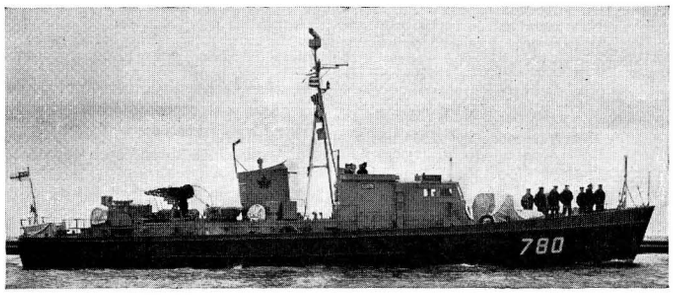
YMT 1 **YMT 3** **YMT 6** **YMT 8**
YMT 2 **YMT 5** **YMT 7** **YMT 9** **YMT 10**

Displacement: 70 tons
Dimensions: 75 × 18½ × 8½ feet
Machinery: 2 diesels. B.H.P.: 165

Arctic Patrol Vessel Notes

The Arctic patrol vessel *Labrador* was in Feb. 1958 transferred, on loan, subject to recall for military purposes, to the Department of Transport, which subsequently acquired her outright (see photograph and full particulars in the 1958-59 and earlier editions and in the Canadian Coast Guard section on following pages).

PATROL CRAFT (PCS)



LOON 1956, *R.C.N., Official*

3 " Bird " Class Small Submarine Chasers

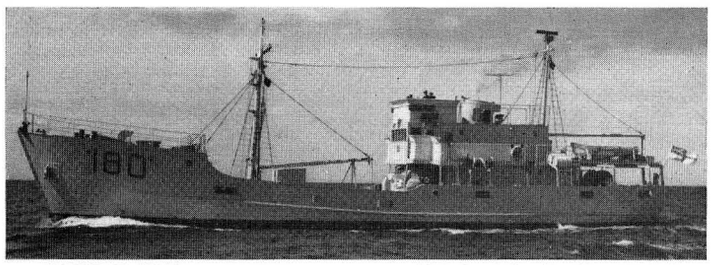
PCS 781 CORMORANT **PCS 780 LOON** **PCS 783 MALLARD**

Displacement: 66 tons *full load*
Dimensions: 92 × 17 × 5½ feet
Guns: 1—20 mm. Oerlikon AA.
A/S weapons: Hedgehog and depth charges
Machinery: 2 diesels. B.H.P.: 1,200=14 kts.
Complement: 21

Notes

Loon, first of class, commissioned 14 Dec. 1955. Designed for harbour patrol work and training duties. Primarily of wood and aluminium construction. Fitted with sonar and anti-submarine apparatus and carry modern navigational equipment. Officially rated as Patrol Craft Submarine Chasers Small. The fourth boat of this class, *Blue Heron*, was transferred on loan to the Marine Section of the Royal Canadian Mounted Police in 1956. Four other vessels of this class, to have been named *Arctic Tern*, *Herring Gull*, *Kingfisher* and *Sandpiper*, were cancelled in 1956. (There are also YFP 312 and YFP 320, 60 ft. patrol craft.)

GATE VESSELS (YMG)



PORTE ST. JEAN 1962, *Royal Canadian Navy, Official*

5 " Porte " Class

PORTE DAUPHINE **PORTE QUEBEC** **PORTE SAINT-JEAN**
PORTE DE LA REINE **PORTE SAINT-LOUIS**

Displacement: 429 tons *full load*
Dimensions: 125½ × 26½ × 13 feet
Guns: 1—40 mm. AA.
Machinery: Diesel. A/C Electric. 1 shaft. B.H.P.: 600=11 kts.
Complement: 3 officers, 20 ratings

Notes

Of trawler design. Multi-purpose vessels used for operating the gates in the A/S booms, fleet auxiliaries, anti-submarine netlayers for entrances to defended harbours. Capable of being fitted for minesweeping. Designation changed from YNG to YMG in 1954. *Porte Dauphine* is on loan to the Department of Mines and Technical Surveys for Great Lakes survey work.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
186	*Porte Dauphine*	Pictou Foundry	16 May 1951	24 Apr. 1952	10 Dec. 1952
184	*Porte de la Reine*	Victoria Machinery	4 Mar. 1951	28 Dec. 1951	19 Sep. 1952
185	*Porte Quebec*	Burrard Dry Dock	15 Feb. 1951	28 Aug. 1951	7 Oct. 1952
180	*Porte St. Jean*	Geo. T. Davie	16 May 1950	21 Nov. 1950	4 June 1952
183	*Porte St. Louis*	Geo. T. Davie	21 Mar. 1951	22 July 1952	28 Aug. 1952

FLEET REPLENISHMENT SHIP

PROVIDER

Displacement: 7,300 tons *light* (22,000 tons *full load*)
Measurement: 20,000 tons *gross*, 14,700 tons *deadweight*
Dimensions: 523 (*pp.*), 551 (*o.a.*) × 76 × 30 (*max.*) feet
Aircraft: 6 Sikorsky helicopters
Machinery: Double reduction geared turbine. 1 shaft. S.H.P.: 21,000 =20 kts.
Boilers: 2 water tube
Oil fuel: 1,200 tons
Radius: 5,000 miles at 20 kts.
Complement: 156 officers and men, plus 24 naval personnel

General Notes

It was announced in the Canadian House of Commons on 15 Apr. 1958 that the construction of a 20,000 ton tanker supply ship for the Royal Canadian Navy had been authorised A photograph of the official model of this new fleet replenishment ship appears in the 1959-60 edition. Contract awarded to Davie Shipbuilding Limited, Lauzon, Quebec, and preliminary construction work began in Sep. 1960. Laid down in June 1961, launched on 5 July 1962, and completion scheduled for 31 July 1963. Pennant No. AOR 508. Cost: $15,700,000 *Provider* is the name borne during the Second World War by RCN Fairmile. motor launch parent ship.

Official Statement

The clean, streamlined appearance of the hull follows a design to achieve high speed while fulfilling replenishment assignments with the fleet on operations. The forward bridge structure contains the commanding officer's and officers' accommodation as well as a modern eight-berth hospital. In the superstructure also are the wheelhouse, chartroom and three positions from which there is complete control of this ship—the command control position and the two bridge wing positions. The helicopter flight deck is aft with the hangar located on this deck and immediately below the funnel. At least six Sikorsky helicopters of the type at present in service in the Royal Canadian Navy will be accommodated in the hangar space.

The flight deck will be capable of receiving the largest and heaviest types of helicopter. Immediately below the flight deck are two accommodation decks for the ship's company, including the main galley and combined mess-recreation spaces for chief and petty officers and men. An unusual feature about the tanker supply ship will be the number of winches on deck, a total of 23 of the electro-hydraulic type. These will be used for ship-to-ship movement of cargo and supplies, as well as shore-to-ship requirements when alongside.

SUPPLY VESSELS (AKS)

2 " Ore " Class

EASTORE AKS 515 — **LAYMORE AKS 516**

Measurement: 560 tons *gross*, 262 tons *net*
Dimensions: 176½ × 32 × 8 feet
Machinery: General Motors diesel. B.H.P.: 1,000 = 10·8 kts.

Notes
Small supply vessels for coastal services. Classed as fleet auxiliaries. A photograph of *Eastore* appears in the 1952-53 to 1959-60 editions.

SCATARI (ex-*Malahat*)
Measurement: 233 tons
Dimensions: 97 × 20 × 9 feet
Machinery: Diesel. 1 shaft. B.H.P.: 400

Notes
Ex-R.C.A.F. supply ship. AKS 514. Commissioned during summer months as training vessel for R.C.N.R. personnel on Great Lakes.

LANGARA AKS 513

OILERS (AO)

2 " Dun " Class

DUNDALK — **DUNDURN**

Displacement: 950 tons
Dimensions: 178¾ × 32½ × 13 feet
Machinery: Diesel. B.H.P.: 700 = 10 kts.

Notes
Small vessels designated tankers, and classed as fleet auxiliaries A photograph of *Dundalk* appears in the 1949-50 to 1959-60 editions.

OCEAN TUGS (ATA)

3 " Saint " Class

SAINT ANTHONY — **SAINT CHARLES** — **SAINT JOHN**

Displacement: 840 tons *full load*
Dimensions: 151½ × 33 × 17 feet
Guns: 2—40 mm. Bofors AA.
Machinery: Diesel. 1 shaft. B.H.P.: 1,920 = 14 kts.

Notes
Ocean tugs of a new design. Authorised under the 1951 Programme. All built by the St. John Dry Dock Co. A photograph of *Saint John* appears in the 1957-58, 1958-59 and 1959-60 editions.

No.	*Name*	*Laid down*	*Launched*	*Completed*
ATA 531	*Saint Anthony*	15 July 1954	2 Nov. 1955	22 Feb. 1957
ATA 533	*Saint Charles*	28 Apr. 1954	10 July 1956	7 June 1957
ATA 535	*Saint John*	1 Dec. 1953	14 May 1956	23 Nov. 1956

3 " Ton " Class

CLIFTON — **HEATHERTON** — **RIVERTON**

Displacement: 462 tons
Dimensions: 104 (*pp.*), 111¾ (*o.a.*) × 28 × 11 feet
Machinery: Dominion Sulzer diesel. B.H.P.: 1,000 = 11 kts.
Complement: 17

Notes
Ocean tugs. *Clifton* was launched on 31 July 1944. Hull numbers are ATA 529, ATA 527 and ATA 528, respectively. A photograph of *Heatherton* appears in the 1952-53 to 1959-60 editions.

TUGS

7 " Glen " Class

GLENBROOK — **GLENDON** — **GLENEVIS**
GLENDEVON — **GLENDYNE** — **GLENLIVIT II**
GLENSIDE

Dimensions: 80 × 20 7/12 × 7¼ (*aft full load*) feet
Machinery: Diesel. B.H.P.: 300 = 9 kts.

Notes
Big harbour tugs. *Glenlivit II* is loaned to Halifax Department of Public Works. Hull numbers are YTB 501, 505, 506, 503, 502, 504 and 500, respectively.

4 " Wood " Class

EASTWOOD — **LAKEWOOD**
GREENWOOD — **OAKWOOD**

Dimensions: 60 (*o.a.*) × 15⅝ × 5 (*aft full load*) feet
Machinery: H.P.: 250 = 10 kts.

Notes
Medium harbour tugs. Used as A/S Target Towing Vessels. Launched, 1944. *Oakwood* loaned to Esquimalt Department of Transport. Hull numbers are YTM 550, 551, 552 and 554, respectively. *Wildwood* was stricken from the Navy List in 1959.

Other medium harbour tugs are:
FT1 **FT2** **FT3**
Employed as fire tugs, Hull numbers YTM 556, 557 and 558, respectively.

15 " Ville " Class

ADAMSVILLE — **LISTERVILLE** — **OTTERVILLE**
BEAMSVILLE — **LOGANVILLE** — **PARKSVILLE**
COLVILLE — **MANNVILLE** — **PLAINSVILLE**
ECKVILLE — **MARYSVILLE** — **QUEENSVILLE**
LAURENCEVILLE — **MERRICKVILLE** — **YOUVILLE**

Dimensions: 40 × 10½ × 4¾ feet
Machinery: Diesel. 1 shaft. B.H.P.: 150

Notes
Small harbour tugs. Majority employed on towing duties at Esquimalt and Halifax. Hull numbers are YTS 582, 583, 576, 580, 584, 578, 589, 577, 585, 581, 590, 579, 587 586 and 588 respectively. Other small harbour tugs are:

SHOVELLER — **VALIANT**
Nos. YTS 591 and 575.

TRAINING YACHT

ORIOLE (ex-*Oriole IV*)

Displacement: 68 tons
Dimensions: 77 (*w.l.*) × 19 × 10¼ feet
Machinery: Cummins diesel. B.H.P.: 160
Complement: 24 (*max.*)

Notes
On the list of ships is H.M.C.S. *Oriole*, training yacht attached to H.M.C.S. *Venture*, officers' training establishment at Esquimalt, B.C. She is a Bermuda-rigged ketch, with a sail area of 7,000 square feet. Pennant No. QW 3. Built at Ne ponset, Mass., U.S.A., in 1921.

R.C.M.P. MARINE SECTION



WOOD — 1960, *Director of Marine Services, Official*

1 " Commissioner " Class

WOOD

Displacement: 600 tons
Dimensions: 178 (*o.a.*) × 29 × 9 feet
Machinery: 2 Fairbanks-Morse diesels. 2 shafts. B.H.P.: 2,660 = 16 kts.
Complement: 60

Notes
Built by Geo. T. Davie and Sons Ltd., Lauzon, Levis, Quebec. Completed in July 1958. Used for patrol duties on the east coast of Canada, this ship is built of steel with aluminium superstructure and steel strengthened for ice patrol.

Recent Disposals
Of the ex-fleet minesweepers of the Canadian diesel " Bangor " type, *French* was turned over to the Crown Assets Corporation on 2 Feb. 1961 for disposal, and *Irvine* was paid off into reserve on 15 Nov. 1960 for disposal. Sister ship *Macbrien* was deleted from the list in 1959.



FORT STEELE — 1960, *Director of Marine Services, Officia*

1 " Fort " Class

FORT STEELE

Displacement: 85 tons
Dimensions: 118 (*o.a.*), 110 (*w.l.*) × 21 × 7 feet
Machinery: Two 18-cyl. Napier Deltic engines. 2 shafts. 2 Kamewa variable pitch propellers. B.H.P.: 5,000 = over 20 kts.
Complement: 16

Notes
Built by Canadian Shipbuilding & Engineering Ltd. Completed in Nov. 1958. Used as a high speed patrol craft on the east coast, this vessel is built of steel with aluminium superstructure, and has twin rudders.

Recent Disposals
The four old boats of the " Fort " class (Fairmile " B " type motor launches) were stricken from the list in 1959.

2 " Bird " Class (*Patrol Craft*, PCS Type)

BLUE HERON — **VICTORIA**

Displacement: 66 tons *full load*
Dimensions: 92 × 17 × 5½ feet
Machinery: 2 diesels. B.H.P.: 1,200 = 14 kts.
Complement: 20

Notes
Blue Heron was built for the Royal Canadian Navy by Hunter Boat Works, Orilla. Launched at Barrie, Ontario, in Dec. 1955. Completed on 30 July 1956. Transferred, on loan, to the R.C.M.P. Marine Section on 19 Nov. 1956 as a sea rescue craft. Similar to *Loon* (see photograph on previous page).

Victoria was built for the R.C.M.P. by Yarrows Limited, Victoria. Completed in Dec. 1955. She is a steel copy of the wooden " Bird " class inshore patrol vessels, similar to the *Loon* and *Mallard*

13 " Detachment " Class (Coastal) Patrol Boats

ACADIAN — **CAPTOR** — **MASSET**
ADVERSUS — **DETECTOR** — **NANAIMO**
ALERT — **GANGES** — **PB 1**
BURIN — **INTERCEPTOR** — **PB 2**
TOFINO

Displacement: 48 tons
Dimensions: 65 × 15 × 4 feet
Machinery: 1 Cummins diesel. 1 shaft. B.H.P.: 410 = 12 kts.

Notes
Coastal patrol police boats built for service on the east and west coasts.

LITTLE BOW 2 — **SYDNEY**

Displacement: 27 tons
Dimensions: 55 × 14 × 4 feet
Machinery: 2 General Motors turbojet engines. B.H.P.: 600 = 16 kts.

Notes
These turbojet craft were built as an experiment and no additions are contemplated.

6 " Detachment " Class (Great Lakes)

CARNDUFF II — **CUTKNIFE II** — **SHAUNAVON II**
CHILCOOT II — **MOOSOMIN II** — **TAGISH II**

Dimensions: 50 × 15 × 3 feet
Machinery: 2 gasoline engines. B.H.P.: 750 = over 20 kts.

Notes
A new class of small, fast patrol craft built for service on the Great Lakes.
There are also seven motor boats named *Advance*, *Fort Erie*, *Fort Francis II*, *Kenora III*, *Port Alice*, *Sorel* and *Valleyfield*, ranging from 26 to 35 feet in length with petrol motors, speeds up to 27 knots. Five are on the Great Lakes and two on the West Coast.

CANADIAN COAST GUARD

(Formerly THE CANADIAN MARINE SERVICE)
operated by The Department of Transport, Canada

Minister of Transport:
Hon. Leon Balcer, P.C., Q.C., M.P., B.A., LL.L.

Deputy Minister of Transport:
John R. Baldwin, M.A., B.Litt.

Assistant Deputy Minister, Marine:
Gordon W. Stead, D.S.C., B.Comm., B.A., LL.D., C.I.Mar.E.

Director, Marine Operations:
Capt. Eric S. Brand, O.B.E., R.N. (Ret'd), C.I.Mar.E.

Director, Shipbuilding:
J. Rankine Strang, M.R.I.N.A., M.S.N.A. & M.E., M.A.S.N.E.

The Canadian Marine Service, the sea-going component of the Department of Transport, was formed with Confederation in 1867 from previously existing organizations. Until the Royal Canadian Navy grew out of it immediately before the First World War, it was an armed Service. Further reorganizations have occurred since and the old name was resumed in 1960.

Throughout its history, it has supplied and maintained aids to navigation for the Department on the Atlantic and Pacific Coasts, in Hudson Bay and Strait, the Western Arctic, the Great Lakes, St. Lawrence River system, and the Mackenzie River.

The Department has long operated icebreakers for flood prevention in the St. Lawrence, extension of the coastal navigation season, and patrol of the Hudson Bay route to Churchill. In recent years the demand for assistance in Arctic and winter navigation has grown enormously and the number of icebreakers included in the fleet has increased correspondingly.

Since 1954 the Department has assumed increasing responsibility for the re-supply of numerous and widely scattered military and civil Arctic installations until by 1961 its operations covered the whole Canadian North. In the Eastern Arctic, the supply function is carried out by convoys of chartered merchant ships escorted by icebreakers. The icebreaker masters act as convoy commodores and are assisted by northern supply vessels. Ice reconnaissance is provided by fixed wing aircraft under the direction of the Meteorological Branch of the Department with close reconnaissance being flown by helicopters carried in the icebreakers and assisted by ice observers of the Meteorological Branch. Ship-shore handling of supplies is carried out by a fleet of landing craft maintained in the North and operated by the Canadian Coast Guard. In the Western Arctic, an icebreaker of the Department covers supply convoys.

Commercial winter navigation in the Gulf of St. Lawrence is supported by icebreakers based on the Atlantic Coast area and directed from an operations room in Sydney, Nova Scotia. Ice information is provided by the Meteorological Branch as in the case of the Arctic operation.

In the Arctic and the Gulf of St. Lawrence, advantage is taken of the presence of Canadian Coast Guard vessels to afford opportunities for hydrographers, oceanographers and other scientists to extend their knowledge of the waters of Canada which can only be navigated by icebreakers. Information from these programmes is in turn used to support and develop the ability to navigate in ice infested waters. The specialists carried for these purposes are provided by other Departments of the Canadian Government. Some of this work has recently been extended into Arctic areas not previously traversed by ship. On the Great Lakes one vessel, on loan from the Royal Canadian Navy, is operated on behalf of a group of research organizations in the fields of meteorology and limnology.

The Canadian Coast Guard co-ordinates and provides much of the marine element in the national air sea rescue organization which is under the overall control of the Royal Canadian Air Force. This involves the provision of expert marine advice to the R.C.A.F. and the organizing of vessels for search and rescue purposes. Eight search-and-rescue cutters are under construction.

Weather Station "Papa" in the mid-Pacific Ocean is maintained by ships of the Canadian Coast Guard, the specialist staff being supplied by the Meteorological Branch of the Department. Some oceanographic work is also carried out from these ships. Two new weatherships to replace the present frigates on loan from the Royal Canadian Navy are to be built for this service.

The Department of Transport is responsible for the maintenance and improvement of the St. Lawrence Ship Channel from Montreal to the sea. Vessels of the Canadian Coast Guard provide the necessary surveys.

In addition to the new construction ships already mentioned, ships under construction or in the planning stages include a triple screw icebreaker, larger than any of the present icebreakers; an icebreaking cable repair ship; a new depot ship to provide repair facilities in the Arctic; and two light icebreakers.

Official Statement

The Department of Transport fleet will be known in future as the Canadian Coast Guard, it was announced on 26 January, 1962 by the Minister of Transport. The decision to adopt the new name for the fleet was made in recognition of the tremendous expansion it has undergone in the past several years, both in the scope of its operations and in number of vessels, and in the standards of operation that have been achieved. The fleet has hitherto been known as the Canadian Marine Service.

At the same time it has been decided to adopt a new colour scheme for its vessels and a distinctive insignia for their funnels. The ships will have red hulls, and white superstructure and funnels instead of the former black, white and yellow combination. A moderately stylized red maple leaf and band on the funnels will make them easily recognizable at a distance as Canadian Coast Guard vessels.

The use of red is of significant practical utility, particularly for icebreakers, for they will be more easily seen from other vessels they may be escorting, and by pilots of their own ice reconnaissance helicopters, under conditions of poor visibility.

The same need for visibility and ready identification applies to the Canadian Coast Guard vessels which are on search and rescue duties.

New types of uniforms will be issued which will provide comfortable and smart clothing appropriate to the conditions of the service. They are modelled on the wartime battle dress. Berets will be provided.

The Canadian Coast Guard now has a total of 241 vessels of all types, including some 50 ships of larger size, from about 400 tons gross to more than 6,000 tons gross. These include 10 fully strengthened icebreakers and seven lighter supply and buoy vessels capable of icebreaking. These 17 vessels comprise the second largest icebreaker fleet in the world.

In addition there are eight other vessels designed for special service in the Arctic, 11 lighthouse supply and buoy ships, weatherships, lightships, a Great Lakes research vessel, shallow draft ships for the Mackenzie River, St. Lawrence Ship Channel survey vessels, shore-based lifeboats and more than 180 steel landing craft for various types of Arctic use.

The present large fleet came into being largely during the past eight years, when the Department of Transport's expanding responsibilities in the Arctic, plus increasing demands for all-winter shipping movement in the Gulf of St. Lawrence, brought about the construction of more than a dozen new vessels capable of such duty. Increased marine traffic added greatly to undertakings in the maintenance of aids to navigation and in the need for more vessels designed for this type of work.

Most of the new ships carry helicopters for ice reconnaissance and ship-to-shore operations. The department's Air Services are now providing 18 such aircraft for marine duty.

The Canadian Coast Guard, besides carrying out the icebreaking and escort duties mentioned, carries supplies to weather, defence and other outposts in the Arctic, each Summer and in 1961 handled 110,000 tons of northbound supplies. It is also responsible for lighthouse and buoy tending in coastal waters, the Great Lakes system, the Mackenzie River system, and in the Canadian Arctic.

The ships, both in Arctic and in "home" waters are used by scientific groups from other government departments in the study of hydrography, oceanography and related scientific matters relating to Canada's waterways.

Other vessels which will continue to be operated by the department as separate units are 15 pilotage vessels and more than 70 tugs, barges and other craft used in maintenance of Canada's secondary canals.

The expansion of the Canadian Coast Guard continues.

SUMMARY

Full icebreakers	10
Light icebreaker, supply and buoy vessels	7
Special Arctic service vessel	1
Northern supply vessels	6
Northern service depot ship	1
Lighthouse supply and buoy vessels	11
Mackenzie River shallow draft buoy vessels	3
Lightships	3
St. Lawrence Ship Channel survey	4
Weatherships	3
Great Lakes Marine and Meteorology research	1
Shore-based lifeboats	3
Workboats	7
Steel landing craft for northern service	181
Total, Canadian Coast Guard vessels	241
Other vessels operated by the Department of Transport	
Pilotage vessels	15
Canals work	76
	91
Total, vessels operated by the Department of Transport, including Canadian Coast Guard, Pilotage and Canals	332

WEATHER SHIPS



TONETOWN (when in R.C.N.) *Royal Canadian Navy, Official*

3 Former "River" Class Frigates

ST. CATHERINES **STONETOWN** **ST. STEPHEN**

Displacement: 1,490 tons *standard* (2,216 tons *full load*)
Measurement: 1,895 tons *gross*
Dimensions: 283 (*pp.*), 301½ (*o.a.*) × 36½ × 17½ × 13½ feet
Machinery: Triple expansion. 2 shafts. I.H.P.: 3,700
Boilers: 2 Admiralty 3-drum type
Oil fuel: 640 tons
Radius: 9,500 miles at 12 kts.

Notes
Officially stated: Former frigates of the Royal Canadian Navy acquired by the Department of Transport and converted to weather ships in 1950. Armament removed.

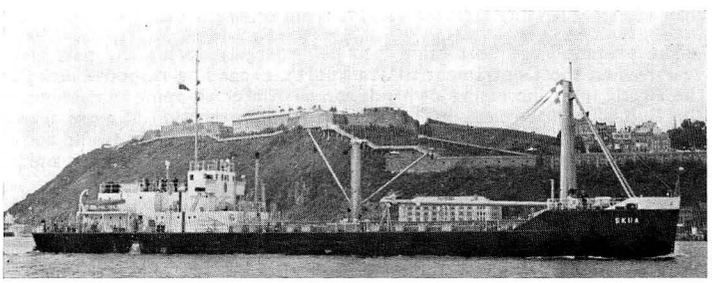
Name	*Builders*	*Launched*
St. Catherines	Yarrows Limited, Esquimalt, B.C.	6 Dec. 1942
Stonetown	Canadian Vickers Limited, Montreal	28 Mar. 1944
St. Stephen	Yarrows Limited, Esquimalt, B.C.	6 Feb. 1944

2 New Construction

Displacement: " Over 300 feet long " (official figure)
Cost: Estimated $8,000,000 each

Notes
Two new weather ships to be built for replacement of vessels now manning Weather Station " Papa " in the Pacific Ocean.

NORTHERN SUPPLY VESSELS



SKUA 1962, *Canadian Coast Guard, Official*

7 Former Tank Landing Craft (LCT 8s)

AUK **GANNET** **PUFFIN** **SKUA**
EIDER **NANOOK** **RAVEN**

Measurement: 1,083 tons to 1,104 tons *gross*
Dimensions: 225 (*pp.*), 231½ (*o.a.*) × 38 × 14 × 3 feet
Machinery: Diesel. S.H.P.: 1,000

Notes
Converted LCT(8)s acquired from the British Admiralty in 1957-61. Built by Harland & Wolff, Belfast, N.I. (*Puffin* and *Raven*), Sir Wm. Arrol & Co. Ltd., Glasgow (*Eider* and *Gannet*) and Alexander Findley, Dumbarton (*Auk*). All completed in 1946.
Nanook is officially rated as a Northern Service Depot Ship.

2 Former Tank Landing Craft (LCT-4s)

MARMOT **MINK**

Displacement: 586 tons *loaded*
Dimensions: 187¼ × 33¾ × 4 feet
Machinery: Diesel. S.H.P. 920 = 10 kts.

Notes
Converted LCT(4)s acquired from the British Admiralty in 1958. Completed in 1944. Officially rated as Steel Landing Craft For Northern Service.

CABLE REPAIR SHIP

1 New Construction

Displacement: 6.171 tons *full load*
Dimensions: 314 × 60 × 21 feet (official figures)
Machinery: S.H.P.: 9,000
Cost: Estimated $7,000,000

Notes
An icebreaking cable repair ship is to be built, it is officially stated. Scheduled to be in service in 1963-64. She will be for use on behalf of the Canadian Overseas Telecommunication Corporation.

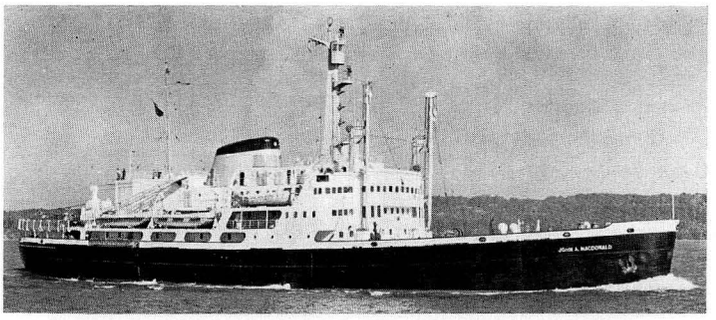
FULL ICEBREAKERS

1 New Construction

Displacement: 12,000 tons *full load* (approx.) official figure
Machinery: Diesel-electric. 3 shafts. S.H.P. 18,000 (official figure)
Cost Estimated $15,000,000

Notes
It is officially stated that construction is proceeding on a new heavy icebreaker, larger than any of the present icebreakers. She will be triple screwed, will cost an estimated $15,000,000, and is to be in service in 1963-64.

Full Icebreakers—*continued*



JOHN A. MACDONALD 1962, *Canadian Coast Guard, Official*

JOHN A. MACDONALD

Displacement: 9,160 tons *full load*
Measurement: 6,186 tons gross
Dimensions: 315 × 70 × 33 × 28 feet
Machinery: Diesel Electric. S.H.P.: 15,000

Notes
Full icebreaker. Built by Davie Shipbuilding Limited, Lauzon, Port Quebec. Completed in Sep. 1960.

WOLFE

Displacement: 3,005 tons *full load*
Measurement: 2,022 tons *gross*
Dimensions: 220 × 48 × 21 × 16 feet
Machinery: Steam reciprocating. I.H.P.: 4,000

Notes
Built by Canadian Vickers Limited, Montreal. Completed in Nov. 1959. Full icebreaker.

CAMSELL

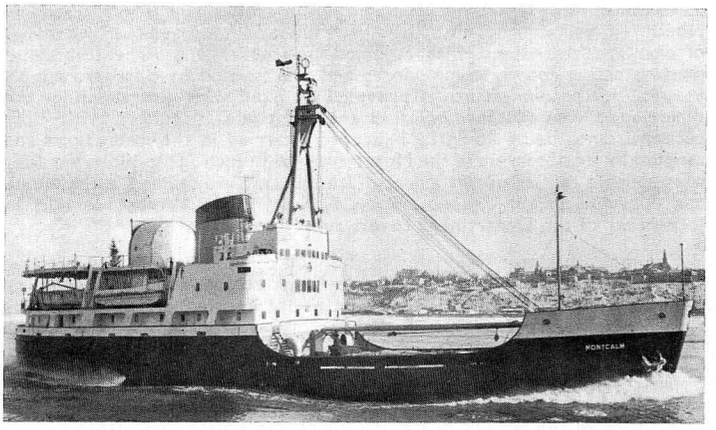
Displacement: 3,072 tons *full load*
Measurement: 2,020 tons *gross*
Dimensions: 223½ × 48 × 21 × 16 feet
Machinery: Diesel-electric. S.H.P.: 4,250

Notes
Built by Burrard Dry Dock and Shipbuilding Company, Vancouver, B.C. Completed in Oct. 1959. Full icebreaker.

SIR HUMPHREY GILBERT

Displacement: 3,000 tons *full load*
Measurement: 1,930 tons *gross*
Dimensions: 220 × 48 × 21 × 16½ feet
Machinery: Diesel-electric. S.H.P. 4,250

Notes
Built by Davie Shipbuilding Limited, Lauzon, Port Quebec. Completed in June 1959. Full icebreaker.

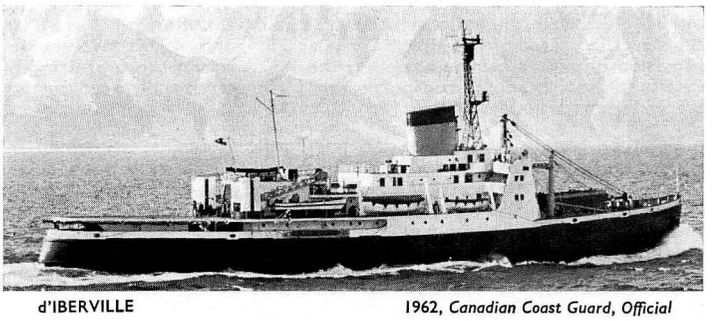


MONTCALM 1962, *Canadian Coast Guard, Official*

MONTCALM

Displacement: 3,005 tons *full load*
Measurement: 2,017 tons *gross*
Dimensions: 220 × 48 × 21 × 16½ feet
Machinery: Steam reciprocating. I.H.P.: 4,000

Notes
Full icebreaker. Built by Davie Shipbuilding Limited, Lauzon ,Port Quebec. Completed in June 1957.



d'IBERVILLE 1962, *Canadian Coast Guard, Official*

d'IBERVILLE

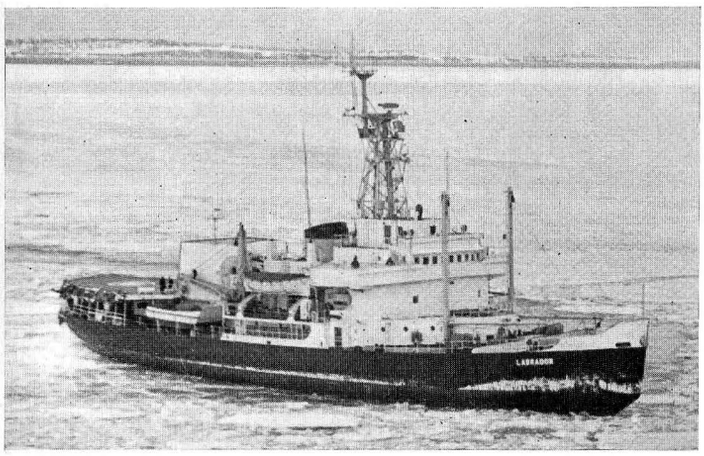
Displacement: 9,930 tons *full load*
Measurement: 5,678 tons *gross*
Dimensions: 310 × 66½ × 40 × 30½ feet
Machinery: Steam reciprocating. I.H.P.: 10,800

Notes
Full icebreaker. Built by Davie Shipbuilding Limited, Lauzon, Port Quebec. Completed in May 1953.

Full Icebreakers—*continued*



LABRADOR (when in R.C.N.) *Royal Canadian Navy, Official*



LABRADOR (after transfer) 1962, *Canadian Coast Guard, Official*

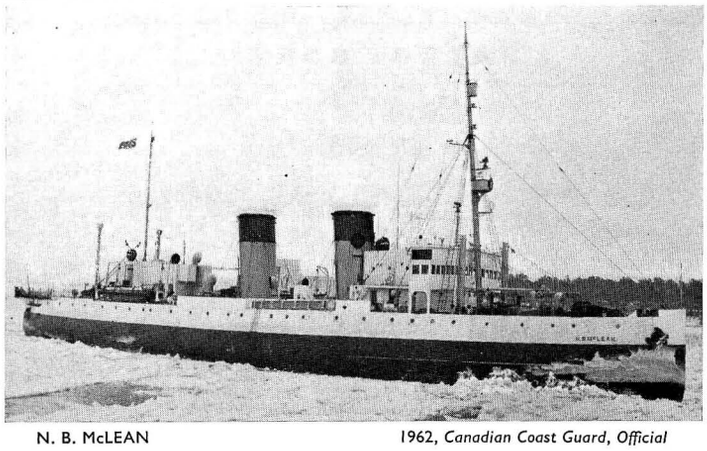
Ex-R.C.N. Arctic Patrol Vessel

LABRADOR

Displacement:	6,490 tons *full load*
Measurement:	3,823 tons *gross*
Dimensions:	269 (*pp.*), 290 (*o.a.*) × 63½ × 37¾ × 29 feet
Guns:	Mounting for 2—40 mm. forward (guns removed)
Aircraft:	Provision for 2 helicopters
Machinery:	Diesel-electric. S.H.P.: 10,000 = 16 kts.
Complement:	218 (naval crew)

Notes

Now rated as a full icebreaker. Built by Marine Industries, Limited, Sorel, Quebec. Ordered in Feb. 1949. Laid down on 18 Nov. 1949. Launched on 14 Dec. 1951. Completed on 8 July 1954. When commissioned in the Royal Canadian Navy she was rated as an Arctic Patrol Vessel, Helicopter Carrier and Icebreaker. Original designation was AGB, changed to AW, No. 50, in 1954. She was the first naval vessel to sail through the North West Passage and to circumnavigate North America, when she was Canada's largest and most modern icebreaker. She has high-tensile steel sides 1⅝ inches thick, and heating tanks built into her. Another new feature is an aircraft hangar and a flight deck built aft which accommodated and provided a platform for helicopters to operate. The ship also carried two landing craft strengthened to resist ice formation. In addition to the latest navigational devices she is equipped with instruments for hydrography, oceanography, meteorology, cosmic ray research, ice reconnaissance and other scientific purposes. She is fitted with Denny Brown stabilisers, and her propelling machinery can be controlled from the bridge. She was transferred on loan, to the Department of Transport in Feb. 1958 and subsequently acquired from the Royal Canadian Navy outright.



N. B. McLEAN 1962, *Canadian Coast Guard, Official*

N. B. McLEAN

Displacement:	5,034 tons *full load*
Measurement:	3,254 tons *gross*
Dimensions:	277 × 60½ × 31 × 19·6
Machinery:	Steam reciprocating. I.H.P.: 6,500

Notes

Full icebreaker. Built by Halifax Shipyards, Limited, Halifax, N.S. Completed in 1930.

ERNEST LAPOINTE

Displacement:	1,675 tons *full load*
Measurement:	1,179 tons *gross*
Dimensions:	184 × 36 × 17 × 15½ feet
Machinery:	Steam reciprocating. I.H.P.: 2,000

Notes

Full icebreaker. Built by Davie Shipbuilding Limited, Lauzon, Port Quebec. Completed in Feb. 1941.

Full Icebreakers—*continued*

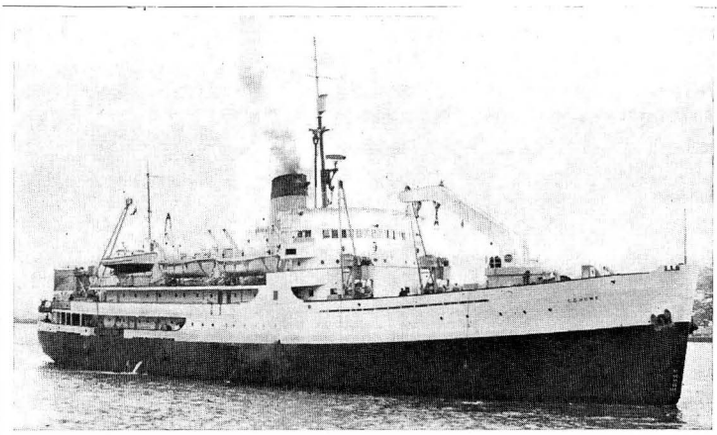
SAUREL

Displacement:	1,892 tons *full load*
Measurement:	1,176 tons *gross*
Dimensions:	212 × 42 × 21 × 14¼ feet
Machinery:	Steam reciprocating. I.H.P.: 3,000

Notes

Full icebreaker Built by Canadian Vickers Limited, Montreal. Completed in 1929.

SPECIAL ARCTIC SERVICE VESSEL



C. D. HOWE 1962, *Canadian Coast Guard, Official*

Multi-Purpose Patrol Type

C. D. HOWE

Displacement:	5,170 tons *full load*
Measurement:	3,628 tons *gross*
Dimensions:	276 (*pp.*), 295 (*o.a.*) × 50 × 26 × 18½ feet
Machinery:	Steam reciprocating. I.H.P.: 4,000 = 12 kts.
Radius:	10 000 miles, with 50 per cent reserve of fuel
Capacity:	Lift of forward crane 30,000 lb.

Notes

Built by Davie Shipbullding Limited, Lauzon, Quebec Harbour. Launched in Sep. 1949. Completed in June 1950. Eastern Arctic Patrol Vessel and Supply Ship. Designed as multi-purpose vessel, being icebreaker, meterological and surveying vessel, hospital ship, and potential fleet auxiliary for naval use in war. With an icebreaker hull she is reported to be of revolutionary streamlined design—equipped with the latest Arctic navigational apparatus. Reinforced for limited work in ice.

LIGHT ICEBREAKERS

Rated as Light Icebreaker, Supply and Buoy Vessels

SIMON FRASER

Displacement:	1,876 tons *full load*
Measurement:	1,357 tons *gross*
Dimensions:	204½ × 42 × 18½ × 14 feet
Machinery:	Diesel-electric. S.H.P.: 2,900

Notes

Built by Burrard Dry Dock Company Limited, North Vancouver, B.C. Completed in Feb. 1960.

THOMAS CARLETON

Displacement:	1,532 tons *full load*
Dimensions:	180 × 42 × 19 × 13 feet
Machinery:	Diesel. B.H.P.: 2,000

Notes

Built by Saint John Dry Dock Limited, Saint John, N.B. Completed in 1960.

TUPPER

Displacement:	1,872 tons *full load*
Measurement:	1,357 tons *gross*
Dimensions:	204½ × 42 × 18¼ × 14 feet
Machinery:	Diesel-electric. S.H.P.: 2,900

Notes

Built by Marine Industries Limited, Sorel, Quebec. Completed in Dec. 1959.

ALEXANDER HENRY

Displacement:	2,497 tons *full load*
Measurement:	1,674 tons *gross*
Dimensions:	210 × 43½ × 21 × 16 feet
Machinery:	Diesel. B.H.P.: 3,550

Notes

Built by Port Arthur Shipbuilding Limited, Port Arthur. Completed in July 1959.

SIR WILLIAM ALEXANDER

Displacement:	3,555 tons *full load*
Measurement:	2,153 tons *gross*
Dimensions:	272½ × 45 × 21½ × 17½ feet
Machinery:	Diesel-electric. S.H.P.: 4,250

Notes

Built by Halifax Shipyards, Limited, Halifax. Completed in June 1959.

WALTER E. FOSTER

Displacement:	2,718 tons *full load*
Measurement:	1,672 tons *gross*
Dimensions:	229¼ × 42½ × 19½ × 16 feet
Machinery:	Steam reciprocating. I.H.P.: 2,000

Notes

Built by Canadian Vickers, Limited, Montreal. Completed in Dec. 1954.

EDWARD CORNWALLIS

Displacement:	3,700 tons *full load*
Measurement:	1,965 tons *gross*
Dimensions:	259 × 43½ × 20½ × 18 feet
Machinery:	Steam reciprocating. I.H.P.: 2,800

Notes

Built by Canadian Vickers, Limited, Montreal. Completed in Dec. 1949.

CEYLON

Administration

The Royal Ceylon Navy came into being on 9 Dec. 1950, the date on which the Navy Act was proclaimed.

Acting Captain of the Navy:

Temporary Commodore R. Kadirigamar, M.V.O.

Services Attaché in London:

Major M. A. Jeewasoma, C.A.

Naval Base

The Naval Base is now established at Trincomalee.

Personnel

1960: 1,974 (154 officers and 1,820 ratings)
1961: 2,000 (156 officers and 1,848 ratings)

FRIGATES

2 Ex-Canadian " River " Class

GAJABAHU (ex-*Misnak*, ex-H.M.C.S. *Hallowell*)
MAHASENA (ex-*Mivtakh*, ex-H.M.C.S. *Violetta*)

Name:	*Gajabahu*	*Mahasena*
Pennant No.	F 232	F 228
Builders:	Canadian Vickers Ltd., Montreal, P.Q.	
Launched:	8 Aug. 1944	1944

Displacement: 1,445 tons *standard* (2,360 tons *full load*)
Dimensions: 301½ × 36½ × 12 feet
Guns: 3—4 inch, 8—20 mm. AA.
Machinery: Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers: 2, of three-drum type
Oil fuel: 585 tons
Radius: 6,000 miles at 12 kts.
Complement: 160

Notes
Former Canadian " River " type frigates acquired by the Israeli Government in 1950 and sold by Israel to the Royal Ceylon Navy in 1959. A photograph of *Gajabahu* appears in the 1960-61 and 1961-62 editions.



MAHASENA — 1962, *Royal Ceylon Navy, Official*

ESCORT MINESWEEPERS

2 " Algerine " Class

PARAKRAMA (ex-H.M.S. *Pickle*)
VIJAYA (ex-H.M.S. *Flyingfish*, ex-*Tillsonburg*)

Name:	*Parakrama*	*Vijaya*
Pennant No.:	M 293	M 370
Builders:	Harland & Wolff Ltd., Belfast	Redfern Construction Co.
Laid down:	11 Jan. 1943	30 Oct. 1943
Launched:	3 Aug. 1943	16 Feb. 1944
Completed:	15 Oct. 1943	14 Oct. 1944

Displacement: 1,040 tons *standard* (1,335 tons *full load*)
Dimensions: 225 (*o.a.*) × 35½ × 11½ (*max.*) feet
Guns: 1—4 inch, 4—40 mm. AA.
A/S weapons: 2 D.C.T.
Machinery: *Vijaya:* Triple expansion. 2 shafts. I.H.P.: 2,000=16·5 kts. *Parakrama:* Geared Turbines. 2 shafts. S.H.P.: 2,000=16·5 kts.
Boilers: 2, of 3-drum type
Oil fuel: 270 tons
Radius: 3,200 miles at 10 kts.
Complement: 100

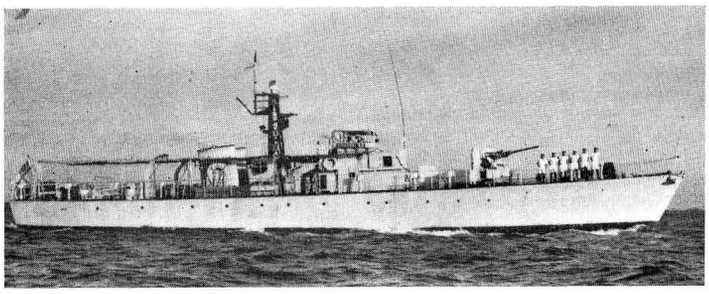
General Notes
Vijaya was a Canadian built " Algerine " class ocean minesweeper. She was transferred from Great Britain to the Ceylon Government in Sep. 1949. *Parakrama* was transferred from Great Britain to the Royal Ceylon Navy with effect from 30 July 1958. She was officially handed over to the Royal Ceylon Navy at Devonport on 6 Apr. 1959.



PARAKRAMA — 1960, *A. & J. Pavia*

Photograph Notes
A photograph of *Vijaya* appears in the 1957-58 to 1959-60 editions.

SEAWARD DEFENCE BOAT



KOTIYA — 1962, *Royal Ceylon Navy, Official*

1 " Ford " Class

KOTIYA (ex-H.M.S. *Desford*)

Displacement: 120 tons *standard* (160 tons *full load*)
Dimensions: 110 (*pp.*), 117½ (*o.a.*) × 20 × 4½ feet
Guns: 1—40 mm. Bofors AA.
A/S weapons: Depth charge release gear
Machinery: 2 Davey Paxman diesels Foden engine on centre shaft.
Speed=18 kts.
Complement: 20

General Notes
" Ford " class, 3101 series. Transferred from Great Britain to the Royal Ceylon Navy in 1955. Another photograph of *Kotiya* appears in the 1956-57 to 1961-62 editions.

Boom Defence Vessel Notes
The boom defence vessel *Baron* was purchased from Great Britain by the Colombo Port Commission (full particulars and photograph appear in the 1958-59 and 1959-60 editions)

PATROL BOATS

2 " Hansaya " Class

HANSAYA **LIHINIYA**

Displacement: 36 tons
Dimensions: 63½ (*pp.*), 66 (*o.a.*) × 14 × 4 feet
Machinery: 3 General Motors diesels

Notes
" Hansaya " class long patrol boats built for the Ceylon Navy at Venice by the Korody Marine Corporation. Photograph of *Lihiniya* in the 1957-58 to 1959-60 editions.

4 " Seruwa " Class

DIYAKAWA **KORAWAKKA** **SERUWA** **TARAWA**

Displacement: 13 tons
Dimensions: 46 (*pp.*), 48 (*o.a.*) × 12 × 3 feet
Machinery: 2 Foden FD.6 diesels

Notes
" Seruwa " class short patrol boats. Photograph of *Diyakawa* in the 1957-58 to 1959-60 editions.

SEAGOING TUG

1 " Empire " Class

ALIYA (ex-*Adept*, ex-*Empire Barbara*)

Displacement: 503 tons *full load*
Dimensions: 105 × 26½ × 12¾ feet
Machinery: Triple expansion. I.H.P.: 850=10 kts.

Notes
Built by Cochrane & Sons Ltd., Selby, Yorks., England. Transferred from Great Britain.

CHILE

Administration

Minister of National Defence:
Senor Julio Pereira.

Commander-in-Chief of the Navy:
Vice Almirante Leopoldo Fontaine.

Chief of the Naval Staff:
Contra Almirante Jacobo Neumann.

Chief of the Chilean Naval Mission in Great Britain and Naval Attache in London:
Capitan de Navio Victor J. Wilson.

Personnel

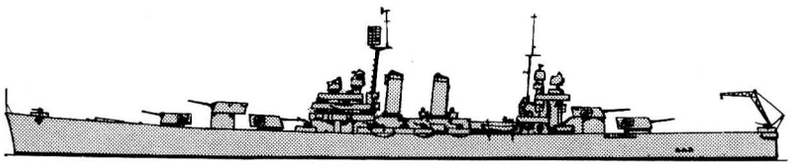
1962: 13,000 officers and men

Mercantile Marine

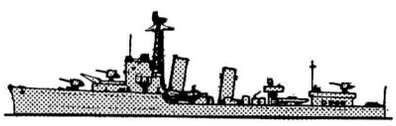
Lloyd's Register of Shipping
113 vessels of 258,005 tons *gross*

Silhouettes

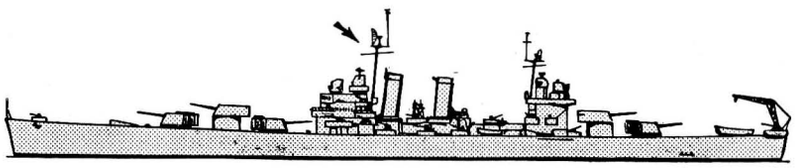
Scale: 150 feet = 1 inch



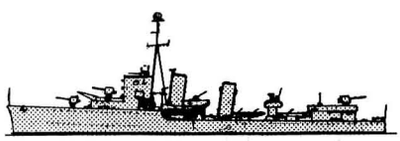
PRAT



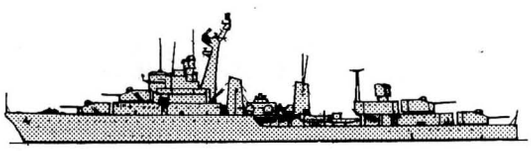
SERRANO *Class*



O'HIGGINS



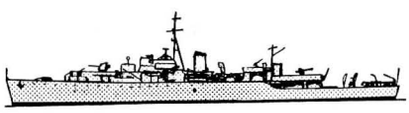
ORELLA



ALMIRANTE *Class*



CASMA *Class*



BAQUEDANO *Class*

CRUISERS (*Cruceros*)

2 " Prat " Class
(Ex-U.S. "Brooklyn" Class)

O'HIGGINS (ex-U.S.S. *Brooklyn*)
PRAT (ex-U.S.S. *Nashville*)

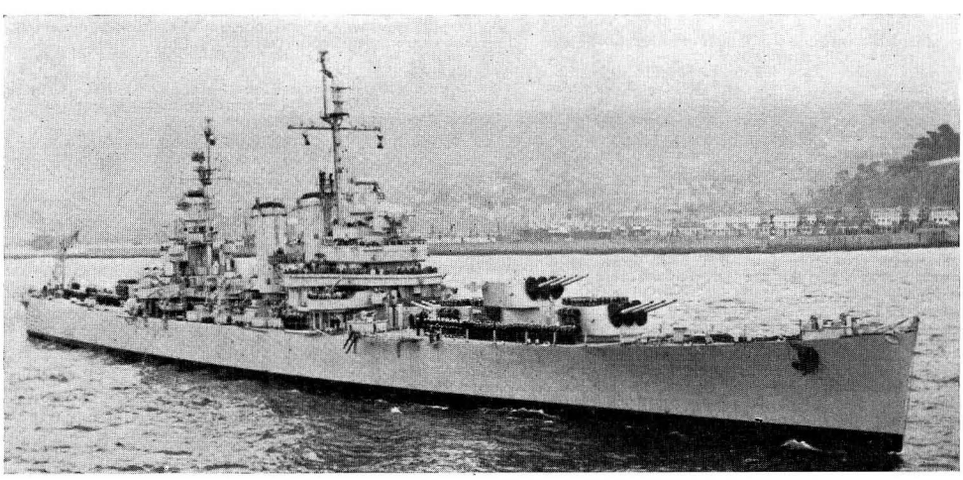
Name:	*O'Higgins*	*Prat*
Builders:	New York Navy Yard	New York S.B. Co.
Laid down:	12 Mar. 1935	24 Jan. 1935
Launched:	30 Nov. 1936	2 Oct. 1937
Completed:	18 July 1938	25 Nov. 1938

Displacement: *Prat:* 10,000 tons *standard* (13,500 tons *full load*)
O'Higgins: 9,700 tons *standard* (13,000 tons *full load*)
Dimensions: Length: 608½ (*o.a.*) feet. Beam: 69 feet. Draught: 24 feet (*max.*)
Guns: 15—6 inch, 47 cal.; 8—5 inch, 25 cal; 28—40 mm. AA.; 24—20 mm. AA.
Aircraft: 4 (normal capacity) see notes
Armour: 4′-1½″ belt, 3″+2″ decks, 5″-3″ turrets, 8″ C.T.
Machinery: Westinghouse geared turbines. 4 shafts. S.H.P.: 100,000=32·5 kts.
Boilers: 8 Babcock & Wilcox Express type
Oil fuel: 2,100 tons
Radius: 14,500 miles at 15 kts.
Complement: 888 to 975 (peace)

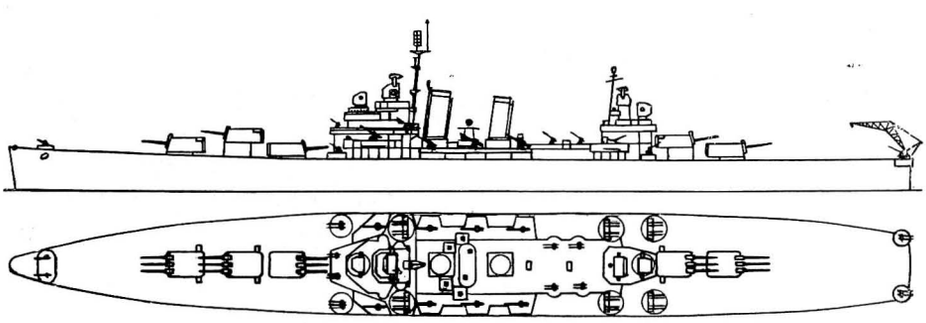
General Notes
Formerly CL 40 and CL 43, respectively, of the U.S "Brooklyn" Class. Purchased from the United States in 1951 at a cost representing 10 per cent of their original cost ($37,000,000) plus the expense of reconditioning them.

Hangar Notes
The hangar in the hull right aft could accommodate 6 aircraft if necessary together with engine spares and duplicate parts, though 4 aircraft is the normal capacity. The existence of this hangar resulted in a very wide and nearly flat counter and high freeboard aft and also gave the after guns higher command. Above the hangar two catapults were mounted as far outboard as possible, and a revolving crane was placed at the stern extremity overhanging the aircraft hatch.

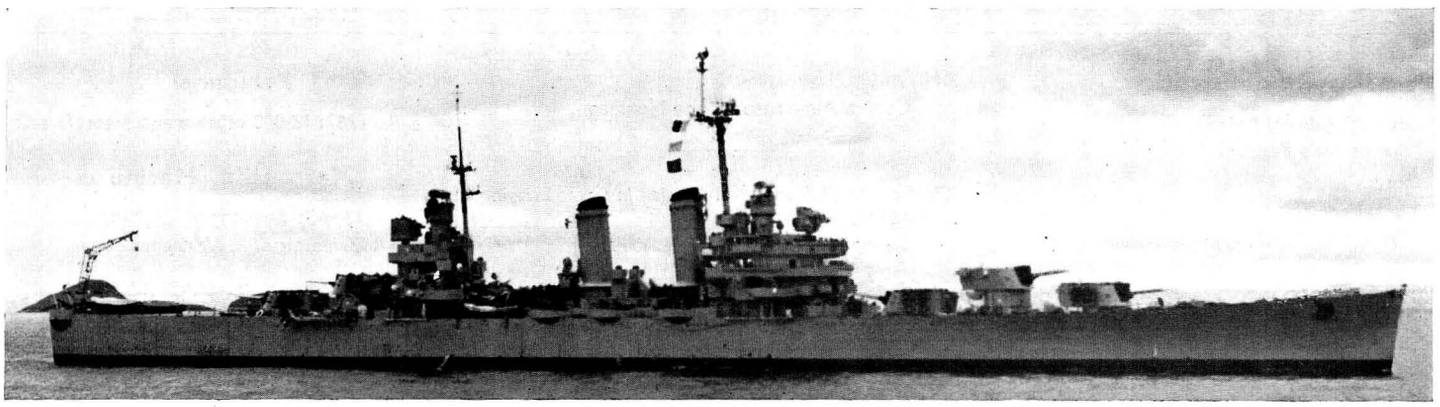
Note to Drawing
Port elevation and plan. Scale: 128 feet = 1 inch.



O'HIGGINS — 1962, *Chilean Navy, Official*



Cruisers—*continued*



PRAT (see previous page)

1961, *Chilean Navy, Official*

DESTROYERS (*Destructores*)



ALMIRANTE WILLIAMS

1960, *courtesy Vickers-Armstrongs Ltd., Barrow-in-Furness, Builders*

2 "Almirante" Class

	RIVEROS	WILLIAMS
Name:	*Riveros*	*Williams*
Builders:	Vickers-Armstrongs Ltd., Barrow	Vickers-Armstrongs Ltd., Barrow
Laid down:	12 Apr. 1957	20 June 1956
Launched:	12 Dec. 1958	5 May 1958
Handed over:	16 Feb. 1962	26 Mar. 1960

Displacement:	2,730 tons *standard* (3,300 tons *full load*)
Dimensions:	402 (*o.a.*) × 43 × 13½ (*max.*) feet
Guns:	4—4 inch AA.; 6—40 mm. AA.
Tubes:	5—21 inch in a quintuple bank
A/S weapons:	2 squid three-barrelled mortars
Machinery:	Vickers-built Parsons geared turbines of Pametrada design. 2 shafts. S.H.P.: 54,000=34·5 kts.
Boilers:	2 of Babcock & Wilcox type
Range:	6,000 miles at 16 kts.
Complement:	266 officers and ratings in peacetime

General Notes

Announced in Jan. 1954, that two new destroyers were to be purchased from Great Britain. Order received from the Chilean Government in May 1955. The layout and general arrangements are strictly conventional, with two funnels. Bunks are fitted for the entire crew.

Electrical Notes

The electrical system is on alternating current. Galleys are all electric. There is widespread use of fluorescent lighting. Degaussing cables are fitted.

Operational Notes

The Operations Room and other similar spaces are air-conditioned. There are twin rudders for exceptional manoeuvrability. The ventilation and heating systems have been designed to suit the Chilean coastline, extending from the tropics to Cape Horn. The latest type of warship radar is fitted, specially developed for these ships to work in conjunction with new fire control systems developed by Vickers-Armstrongs.

Appearance Notes

Riveros differs from *Williams* in having a lattice instead of a pole, mainmast (photo of *Riveros* in Addenda).

Gunnery Notes

The main armament is disposed in four single mountings, two superimposed forward and two aft. The 4-inch guns are entirely automatic with a range of 12,500 yards (or over 7 miles) and an elevation of 75 degrees.

2 Ex-U.S. "Fletcher" Class

Notes

Former United States destroyers of the " Fletcher " class. It was officially stated in Mar. 1961 that the Chilean Government had signed an agreement with the United States Government for the transfer of these two ships in 1962.

Displacement :	2,100 tons *standard* (2,750 tons *full load*)
Dimensions :	376½ (*o.a.*) × 39½ × 18 (*max.*) feet
Guns :	5—5 inch, 38 cal. d.p., 6—40 mm
Tubes :	5—21 inch (quintupled)
A/S weapons :	2 Hedgehogs, 1 D.C. rack, 6 K-guns
Machinery :	2 General Electric geared turbines 2 shafts. S.H.P.: 60,000=35 kts.
Boilers :	4 Babcock & Wilcox
Complement:	300 officers and ratings in wartime

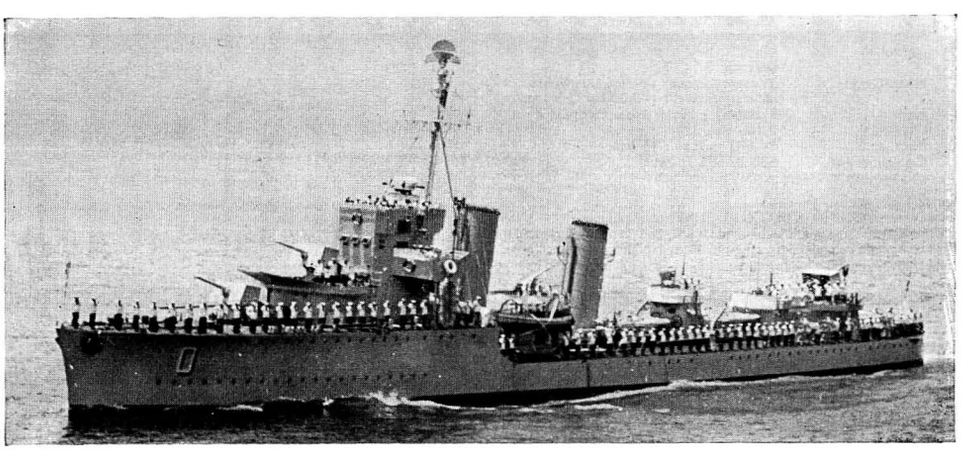
4 " Serrano " Class

	HYATT ORELLA RIQUELME SERRANO
Displacement:	1,090 tons *standard* (1,430 tons *full load*)
Dimensions:	288¼ (*pp.*), 300 (*o.a.*) × 29 × 12⅔ feet (*max.*)
Guns:	3—4·7 inch, 1—3 inch AA., 3—20 mm. AA., 2 M.G.
Tubes:	6—21 inch, in triple deck mountings
Machinery:	Geared turbines Parsons (l.p.), Brown-Curtis (h.p. and cruising). 2 shafts. S.H.P.: 28,000=35 kts.
Boilers:	3 Thornycroft 3-drum type
Oil fuel:	320 tons
Complement:	130

General Notes

Fitted for carrying mines. Plating is galvanised throughout, and the heavy hull scantlings reduce the stresses to even less than those allowed by British Admiralty practice. All exceeded their contract speed on trials. They have exceptionally good accommodation for vessels of their size, and are adapted for service in a wide range of climates. All distinguished by initial letter of name painted on bows.

(*continued on next page*)



ORELLO (after conversion to escort with tripod mast for radar)

1956, *Chilean Navy, Official*

Destroyers—*continued*

"Serrano" Class—*continued*

Conversion Notes

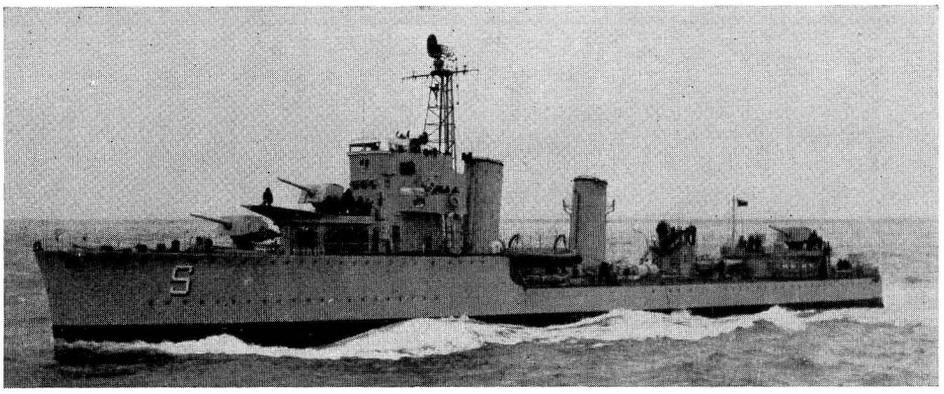
Orella and *Serrano* were converted into escort destroyers in 1956. The modifications included the stepping of a tripod mast and the fitting of modern radar equipment and anti-submarine sonar apparatus, extra fuel tanks, etc. *Serrano* also converted into a DE like *Orella*, was refitted with a short lattice foremast to support new radar in 1955.

Bow Letter	*Name*	*Builders*
H	*Hyatt*	All by John I. Thornycroft & Co. Ltd., Southampton
O	*Orella*	
R	*Riquelme*	
S	*Serrano*	

Name	*Laid down*	*Launched*	*Completed*
Hyatt	June 1927	21 July 1928	June 1929
Orella	June 1927	8 Mar. 1928	June 1929
Riquelme	July 1927	28 May 1928	July 1929
Serrano	July 1927	25 Jan. 1928	Sep. 1928

Recent Disposals

Sister ships *Aldea* and *Videla* were officially removed from the list in 1958.



SERRANO

1959, *Chilean Navy, Official*

FRIGATES (*Fragatas*)

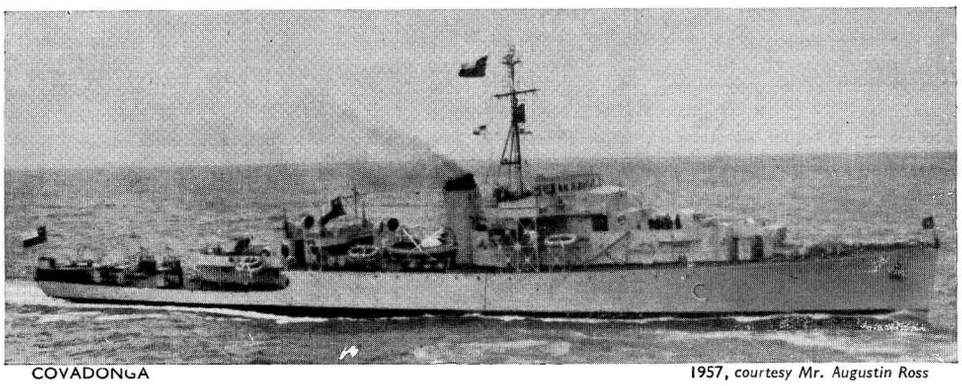
2 "Baquedano" Class
(Ex-Canadian "River" Class)

COVADONGA (ex-*Seacliff*, ex-*Megantic*)

IQUIQUE (ex-*Joliette*)

Name:	*Covadonga*	*Iquique*
Bow Letter:	C	I
Builders:	Davie Shipbuilding Co., Lauzon, P.Q.	Morton Ltd., Quebec City, P.Q.
Launched:	8 July 1944	12 Nov. 1943
Completed:	26 Sept. 1944	14 June 1944

Displacement:	1,445 tons *standard* (2,125 tons *full load*)
Dimensions:	301 × 37 × 13 feet
Guns:	2—4 inch AA., 10—20 mm. AA.
A/S Weapons:	6 D.C.T.
Machinery:	2 sets triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2, of 3-drum type
Oil fuel:	646 tons
Radius:	9,500 miles at 12 kts.
Complement:	140



COVADONGA

1957, *courtesy Mr. Augustin Ross*

General Notes

Former Canadian frigates of the "River" type. Purchased from the Royal Canadian Navy in May 1946. The ships are distinguished by the initial letters of their names.

Recent Disposal

It is reported that sister ship *Baquedano* (ex-*Esmeraldo*, ex-H.M.C.S. *Glace Bay*, ex-*Lauzon*) was sold for scrapping in 1960.

CORVETTES (*Corbetas*)

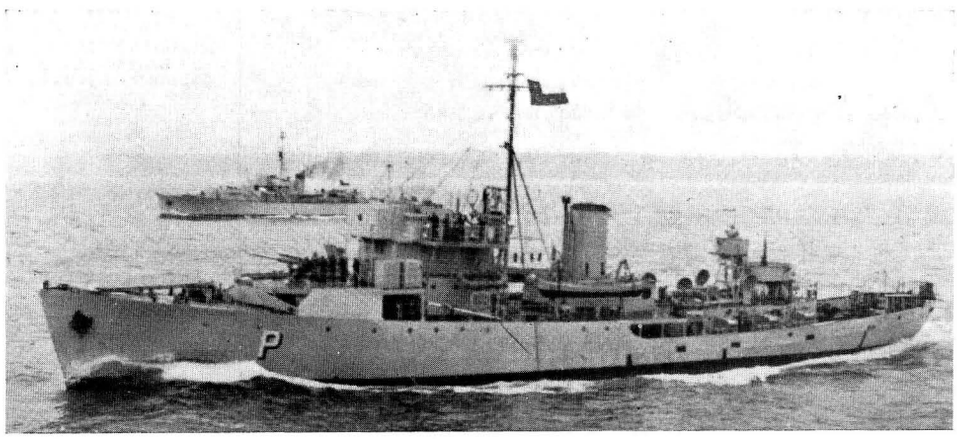
3 "Casma" Class
(Ex-Canadian "Flower" Class)

CASMA (ex-*Stellarton*, 27 Apr. 1944)
CHIPANA (ex-*Strathroy*, 15 June 1944)
PAPUDO (ex-*Thorlock*, 15 May 1944)

Displacement:	1,060 tons *standard* (1,340 tons *full load*)
Dimensions:	193 (*pp.*), 205 (*o.a.*) × 33½ × 14¾ feet (*max.*)
Guns:	1—4 inch, 6—20 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	Triple expansion. I.H.P.: 2,750=16·5 kts.
Boilers:	2, of 3-drum type
Oil fuel:	350 tons
Radius:	7,000 miles at 10 kts.
Complement:	66

General Notes

Launch dates above. Completed on 29 Sep. 1944, 20 Nov., 1944, and 13 Nov. 1944, respectively. Built by Morton Ltd., Quebec City, P.Q. (*Casma*) and Midland Shipyards Ltd., Midland, Ont. (other two). Purchased from the Royal Canadian Navy in 1946. Rated as *Corbetas*. *Chipana* actually serves as a surveying vessel. Distinguished by initial letters of their names: C—*Casma*; CH—*Chipana*; P—*Papudo*.



PAPUDO

1962, *Chilean Navy, Official*

SUBMARINES

2 Ex-U.S. "Balao" Class

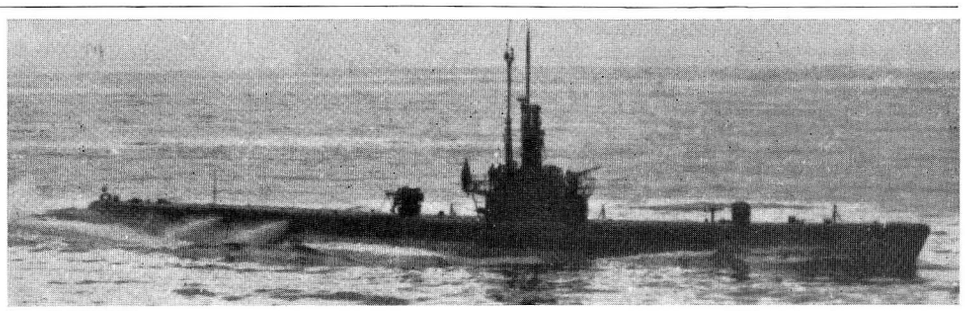
SIMPSON (ex-U.S.S. *Spot*, SS 413)
THOMSON (ex-U.S.S. *Springer*, SS 414)

Name:	*Simpson*	*Thomson*
Builders:	Mare Island Navy Yard	Mare Island Navy Yard
Launched:	20 May 1944	3 Aug. 1944
Completed:	3 Aug. 1944	18 Oct. 1944

Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½ × 27 × 17 feet
Guns:	1—5 inch, 25 cal., d.p., 2—40 mm AA.
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	G.M. 2-stroke diesels. B.H.P.: 6,500 =20 kts. (*surface*). H.P.: 4,610= 10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	80

Notes

Springer was transferred from the United States Navy to the Chilean Navy at San Francisco, Calif., on 23 Jan, 1961 under the Military Aid Program, and renamed *Capitan Thompson*. *Spot* was transferred from the United States Navy to the Chilean Navy at the end of 1961 under MAP and renamed *Simpson*.



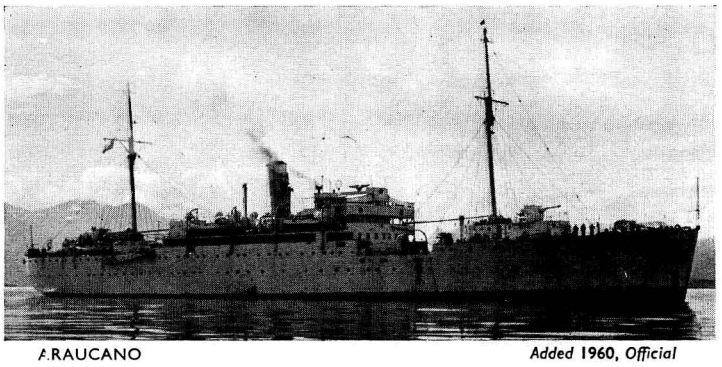
THOMSON

1962, *Chilean Navy, Official*

Recent Disposals

The old submarines *Almirante Simpson* and *Capitan O'Brien* were officially removed from the list in 1958, and their sister ship *Capitan Thomson* was sold in 1959.

SUBMARINE DEPOT SHIP



ARAUCANO — *Added* 1960, *Official*

ARAUCANO

Builders:	Vickers-Armstrongs, Ltd., Barrow
Laid down:	1 Mar. 1929
Launched:	22 Oct. 1929
Completed:	Mar. 1930
Displacement:	6,438 tons *standard* (9,000 tons *full load*)
Dimensions:	390 (*pp.*), 412¼ (*o.a.*) × 55¼ × 16½ (*mean*), 17⅓ (*max.*) feet
Guns:	2—4.7 inch, 5—20 mm. AA., 2 M.G.
Aircraft:	1 seaplane
Machinery:	Parsons geared turbines. S.H.P.: 2,400 = 13 kts.
Coal:	670 tons

Notes
Has accommodation for 585 personnel, including crews of attached submarines. Had a seaplane added to her equipment. It was reported in 1962 that she is now in reserve due to poor condition.

COASTGUARD VESSELS (*Escampavias*)

General Notes
Four or five seagoing patrol craft are included in the new construction and acquisition programme. Coastguard vessels are employed on surveying service.

PILOTO SIBBALD

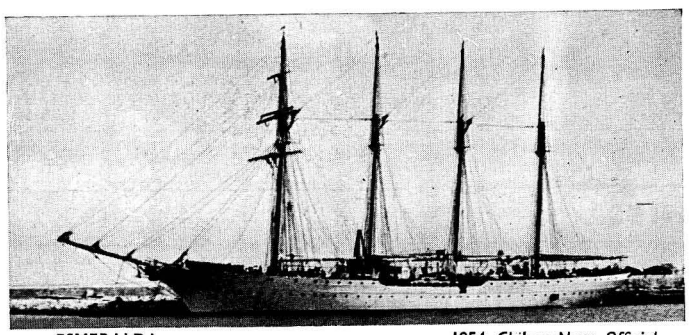
Displacement:	1,100 tons
Dimensions:	141¾ × 28¾ × 11 feet
Machinery:	Triple expansion. 2 screws. I.H.P.: 1,200 = 11·5 kts.
Boilers:	2 cylindrical
Coal capacity:	145 tons
Complement:	18

General Notes
Built by Bow, McLachlan & Co., Paisley. Launched in 1916. Possesses fire-fighting and salvage equipment. During 1916-19 this vessel was taken over by the Royal Navy, in which she served as the *Stoic*. Re-acquired by Chile in 1920. Classed as coastguard vessel.

Photograph Notes
A photograph of this ship appears in the 1957-58 (Diamond Jubilee) edition.

Recent Disposals
It is officially stated that the old coastguard vessel *Yelcho*, employed on surveying service was removed from the effective list in 1959.

TRAINING SHIP (*Buque Escuela*)



ESMERALDA — 1954, *Chilean Navy, Official*

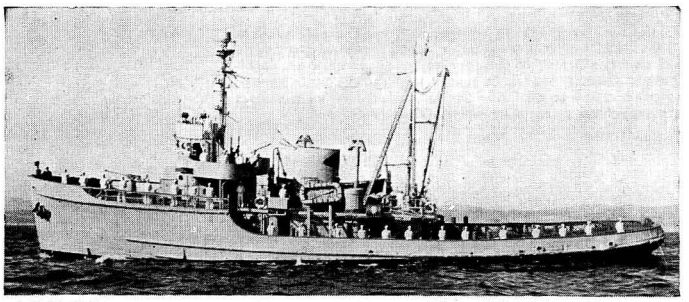
ESMERALDA (ex-*Don Juan de Austria*)

Displacement:	3,040 tons *standard* (3,673 tons *full load*)
Dimensions:	308¾ (*o.a.*), 260 (*pp.*) × 43 × 23 (*max.*) feet
Guns:	2—57 mm.
Sail area:	Total 26,910 sq. feet
Machinery:	1 Fiat Auxiliary Diesel. 1 shaft. B.H.P.: 1,400 = 11 kts.
Range:	8,000 miles
Complement:	271 plus 80 cadets

General Notes
Four-masted schooner completed in 1952. Built in Spain by the Echevarrieta Yard, Cadiz, and originally intended for the Spanish Navy. Transferred to Chile on 12 May, 1953, Near sister ship of *Juan Sebastian de Elcano* in the Spanish Navy. Similar to the Brazilian training ship *Almirante Sadanha*. Replaced transport *Presidente Pinto* as training ship.

Recent Disposals
The smaller and older training ship (school tender) *Vidal Gormaz* was withdrawn from service in 1958. The minelayer *Orompello* was scrapped in 1957

PATROL VESSELS



LAUTARO — 1956, *Chilean Navy, Official*

3 "Lautaro" Class

LAUTARO (ex-U.S.S. *ATA* 122, 27 Nov. 1942)
LEUCOTON (ex-U.S.S. *ATA* 200, 8 Sep. 1944)
LIENTUR (ex-U.S.S. *ATA* 177, 5 June 1944)

Displacement:	534 tons *standard* (835 tons *full load*)
Dimensions:	134½ (*w.l.*), 143 (*o.a.*) × 33⅜ × 13½ (*max*.) feet
Guns:	1—3 inch AA., 2—20 mm. AA.
Machinery:	General Motors diesel-electric. S.H.P.: 1,500 = 12·5 kts.
Oil fuel:	187 tons
Complement:	33

Notes
Former United States Navy auxiliary ocean Tugs of the ATA type ("Maricopa" class), originally ocean rescue tugs (*ATRs*), transferred to the Chilean Navy and reclassified as patrol vessels. Launch dates above. Built by Levingstone Shipbuilding Co., Orange, Texas, U.S.A. (*Lautaro* and *Lientur*) and Gulfport Boiler & Welding Works, Port Arthur, Texas (*Leucoton*).

LANDING SHIPS (*Barcazas*)



ASPIRANTE GOICOLEA — *Added* 1949, *Official*

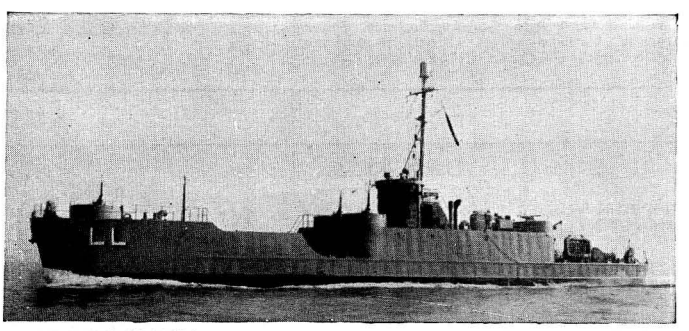
ASPIRANTE GOICOLEA (ex-U.S.S. *LSM* 400)
ASPIRANTE IZAZA (ex-U.S.S. *LSM* 295)
ASPIRANTE MOREL (ex-*LSM* 444, ex-*Aloto*)

Displacement:	743 tons *standard* (1,095 tons *full load*)
Dimensions:	196¼ (*w.l.*), 203½ (*o.a.*) × 34½ × 7⅓ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 2,800 = 12 kts.
Completed:	60

General Notes
Former U.S. medium landing craft, Ex-*LSM* 400, *LSM* 295 and *LSM* 444, respectively. *Aspirante Izaza* was launched in 1944, and the other two in 1945. *Aspirante Morel* (ex-*Aloto*) was leased to Chile on 2 Sep. 1960 at Pearl Harbour to replace an older LSM.

Recent Disposals
Of two sister ships, the *Aspirante Morel* was withdrawn from service in 1958, and the *Guardiamarina Contreras* was removed from the effective list in 1959.

LANDING CRAFT (*Barcazas*)



EDUARDO LLANOS — *Added* 1949, *Official*

CABO BUSTOS **EDUARDO LLANOS**

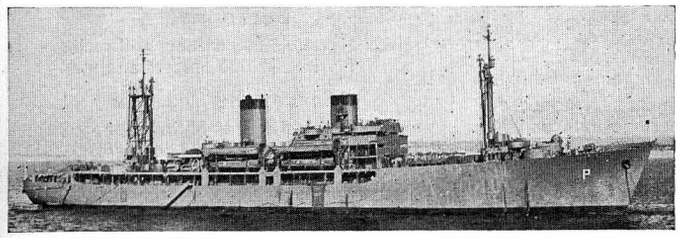
Displacement:	230 tons *standard* (387 tons *full load*)
Dimensions:	159 × 23⅔ × 5⅔ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,320 = 14 kts.

General Notes
Ex-*LCIL* 878 and ex-*LCIL* 1025, respectively. Both launched in 1943. Named after personnel killed in action during the war with Peru and Bolivia, 1879-80.

Recent Disposals
Sister ships *Grumete Bolados*, *Grumete Diar*, *Grumete Tellez* and *Soldado Canaves* were withdrawn from service in 1958.

There are also four classes of small landing craft as follows:
3 of **LCV** type **8** of **LCP** type **28** of **LVCP** type **2** of **LCPL** type
32 vessels of the LCP, LCVP and LCPL type were purchased from the U.S. Navy in 1947. Three LCV and six LCVP were acquired from the U.S.A. on lease terms in 1960.

ATTACK TRANSPORT (*Transporte de Ataque*)



PRESIDENTE PINTO 1955, *Chilean Navy, Official*

PRESIDENTE PINTO (ex-*Zenobia*, *AKA* 52,)

Displacement:	4,100 tons *standard* (6,744 tons *full load*)
Dimensions:	426 (*o.a.*) × 58 × 16 (*max.*) feet
Guns:	1—4·7 inch, 2—3 inch, 8—40 mm.
Machinery:	Turbo-electric. 2 shafts. S.H.P.: 6,000 = 17 kts.
Boilers:	2 Wickes
Complement:	225

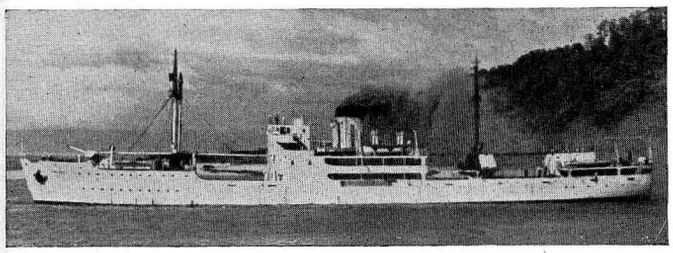
Notes

Built by Walsh-Kaiser. Launched on 6 July 1945. Purchased from the U.S. Navy in Nov. 1946. Distinguished by P painted on hull. Sister ship *Presidente Errazuriz* served as fleet flagship for a time. *Presidente Pinto* served as a training ship for midshipmen.

Recent Disposal

It was reported in 1962 that sister ship *Presidente Errazuriz* (ex-*Xenia*, AKA 51) had been removed from the Navy List.

TRANSPORTS



ANGAMOS 1957, *Chilean Navy, Official*

ANGAMOS

Displacement:	3,800 tons *standard*
Dimensions:	315 (*pp.*), 340 (*o.a.*) × 46 × 19¾ feet
Machinery:	Triple expansion. I.H.P.: 2,200 = 12 kts.
Coal:	575 tons
Complement:	72+74 passengers or troops

Notes

Built at Aalborg. Laid down on 5 Apr. 1940. Launched in 1941. Delivered in Feb. 1946. Named after the naval victory which, on 8 October 1879, virtually decided the issue of the war against Peru and Bolivia.

MICALVI (ex-*Boston Lines*, ex-*Bragi*)

Displacement:	850 tons *standard*
Measurement:	612 tons *gross*
Dimensions:	181½ × 28¾ × 11 feet
Machinery:	Triple expansion. I.H.P.: 380 = 9·5 kts.

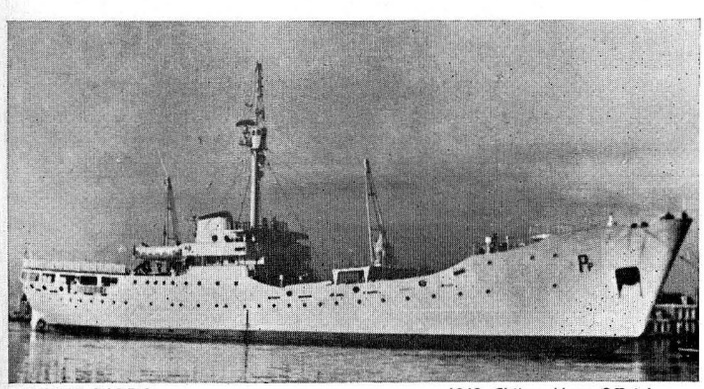
Notes

Small transport and cargo ship. Built by Ostsee Werft, Stettin Launched in 1925.

Recent Disposals

It is officially stated that the old transport *Pilcomayo* was removed from the effective list in 1959.

ANTARCTIC PATROL SHIP



PILOTO PARDO 1960, *Chilean Navy, Official*

PILOTO PARDO

Displacement:	1,250 tons *light*, 2,000 tons *standard* (*circa* 3,000 tons *full load*)
Dimensions:	269 × 39 × 15 feet
Aircraft:	1 helicopter
Machinery:	2 diesel-electric. H.P.: 2,000 = 14 kts.
Complement:	44 (plus 24 passengers)

Notes

Built by Haarlemsche Scheepsbouw Mij., Haarlem, Netherlands. Antarctic patrol ship, transport, and research vessel with a reinforced hull to navigate in iced zones. For special service in the Southern Ocean. Officially listed as a transport. Delivered in 1959.

ANTARCTIC RESEARCH SHIP

1 Ex-U.S. Fleet Ocean Tug Type

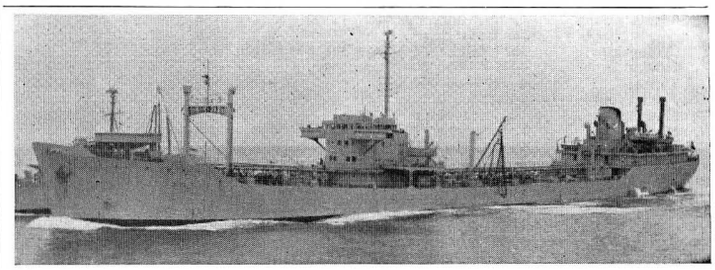
YELCHO (ex-U.S.S. *Tekesta*, ATF 93)

Displacement:	1,235 tons *standard* (1,675 tons *full load*)
Dimensions:	195 (*w.l.*), 205 (*o.a.*) × 38½ × 12 (*mean*), 15½ (*max.*) feet
Guns:	1—3 inch, 4—40 mm. AA., 2—20 mm. AA.
Machinery:	4 sets of diesels with electric drive. B.H.P.: 3,000 = 16.5 kts.
Complement:	85

Notes

Former United States Navy fleet ocean tug of the ATF type ("Apache" class) fitted with powerful pumps and other salvage equipment. Launched on 20 Mar. 1943. Leased to Chile by U.S.A. with ARD 32 (auxiliary floating dry-dock) on 15 May 1960. Delivered to the Chilean Navy in 1960. Loaned for five years. To be employed as Antarctic research ship.

OILERS



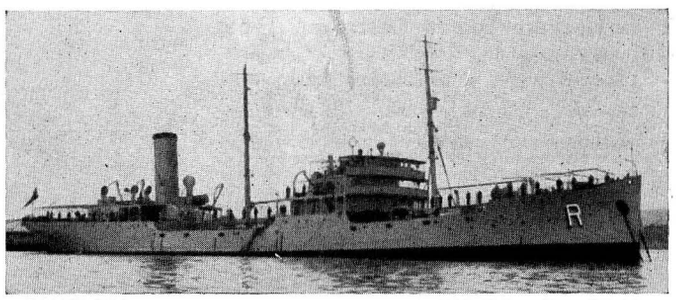
ALMIRANTE JORGE MONTT 1962, *Chilean Navy, Official*

ALMIRANTE JORGE MONTT

Displacement:	9,000 tons *standard* (17,500 tons *full load*)
Measurement:	11,800 tons *gross*, 17,750 tons *deadweight*
Dimensions:	548 × 67½ × 30 feet
Machinery:	Rateau Bretagne geared turbines. 1 shaft. S.H.P.: 6,300 = 14 kts.
Boilers:	2 Babcock & Wilcox
Radius:	16,500 miles at 14 kts.

Notes

Naval squadron supply tanker. Built by Ateliers et Chantiers de la Seine Maritime, Le Trait, France. Laid down in 1954. Launched on 14 Jan. 1956. Completed in Mar. 1956.



RANCAGUA 1957, *Chilean Navy, Official*

MAIPO **RANCAGUA**

Displacement:	8,225 tons *standard*
Measurement:	3,800 tons *gross*, 7,715 tons *deadweight*
Dimensions:	365 × 49¾ × 22½ feet
Guns:	2—4·7 inch, 2 M.G. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 4,800 = 15 kts.
Boilers:	4 S.E.
Oil fuel:	725 tons
Complement:	54

Notes

Distinguished by initials of names painted on bows. Names are those of actions during the War of Independence—*Maipo* on 15 Apr. 1818; *Rancagua* on 1 Oct. 1814.

Bow Letter	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
M	*Maipo*	Vickers-Armstrongs, Ltd., Tyne	Mar. 1929	Jan. 1930	Mar. 1930
R	*Rancagua*		Mar. 1929	Nov. 1929	Mar. 1930

SEAGOING TUGS (*Remolcadores de Alta Mar*)

HUEMUL (ex-*Vilumilla*)

Displacement:	320 tons
Dimensions:	100 (*w.l.*) × 22 × 13 feet
Machinery:	Triple expansion. I.H.P.: 650 = 12 kts.
Boiler:	1
Coal capacity:	35 tons

Notes

Built at Valdivia and launched in 1937. Another of the same type, *Contramaestre Brito* (ex-*Pelantaro*), was lost.

4 "Cabrales" Class

CABRALES (24 Oct. 1929) **GALVARINO**
COLOCOLO **SOBENES** (23 Oct. 1929)

Displacement:	790 tons
Dimensions:	126½ × 27 × 12 (*mean*) feet
Machinery:	Triple expansion. I.H.P.: 1,050 = 11 kts.
Fuel:	130 tons coal (except *Cabrales*, 135 tons oil)

General Notes

All built by Bow, McLachlan & Co., Paisley. Launch dates above. *Cabrales* was converted into an oil burner in 1959 (see capacity above). These ships are classed as coastguard vessels.

Photograph Notes

A photograph of *Galvarino* appears in the 1953-54 to 1957-58 editions.

Recent Disposals

Sister ship *Janequeo* was withdrawn from service in 1958, and disposed of.

PEOPLE'S REPUBLIC OF CHINA

Ships

4 Destroyers, transferred from the U.S.S.R.
31 Submarines including 17 Chinese "W" class.
4 Escort Vessels of Soviet "Riga" class.
15 Frigates and Corvettes of other types.
24 Patrol Vessels of the "Kronstadt" class.
140 Motor Torpedo Boats including 60 P-6 class.
60 Motor Gunboats of various types.
30 Mine-sweepers including 11 "T43" class.
50 Amphibious Ships, (LSTs, LSMs, LSILs).
350 Patrol Craft, some fitted for minesweeping.

The block numbering system has been adopted. Submarines : 100 block. Major surface ships : 200 block. Amphibious ships : 300 block,

Personnel

1962: Naval, 48,000 officers and ratings
Marine, 28,000 officers and men

Mercantile Marine

Lloyd's Register of Shipping:
212 vessels of 472,677 tons *gross*

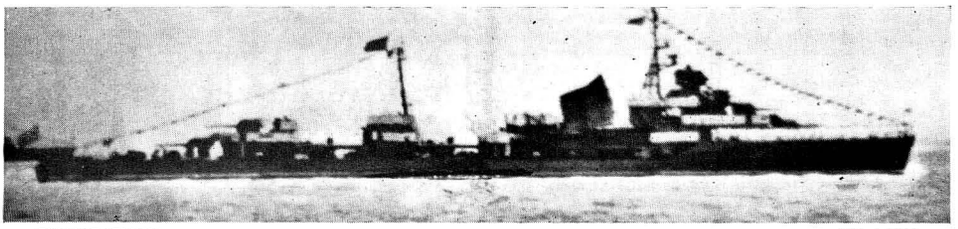
DESTROYERS

4 Ex-Soviet "Gordy" Class

CHANG CHUN **FUSHUN**

Displacement:	1,657 tons *standard* (2,150 tons *full load*)
Dimensions:	357⅔ (*pp.*), 377 (*o.a.*) × 33½ × 13 feet
Guns:	4—5·1 inch, 8—37 mm. AA.
Tubes:	6—21 inch (tripled)
A/S weapons:	8 D.C.T.
Mines:	100
Machinery:	Tosi geared turbines. 2 shafts. S.H.P.: 50,000=36 kts.
Boilers:	3-drum type
Oil fuel:	500 tons
Complement:	250

Notes
Of Odero-Terni-Orlando design. All launched in 1936-41. Fitted for minelaying. Two "Skoryi" class destroyers are also reported to have been acquired from U.S.S.R.



CHANG CHUN *Added* 1960

Cruiser Notes
The old cruiser *Kaganovich* was reported to have been lent or leased by the U.S.S.R. to the People's Republic of China. For particulars of this ship, see U.S.S.R. section.

The old light cruiser *Pei Ching* (ex-*Huang Ho*, ex-*Victory*, ex-*Chungking*, ex-H.M.S. *Aurora*) is now a mere hulk. For full particulars see 1959-60 and earlier editions.

FRIGATES

4 "Riga" Class Escort Type

Displacement:	1,200 tons *standard* (1,600 tons *full load*)
Dimensions:	295 (*o.a.*) × 31½ × 10 feet
Guns:	3—3·9 d.p. (single mounts); 3—37 mm. AA.
Tubes:	3—21 inch (3 torpedoes)
A/S weapons:	4 depth charge projectors
Machinery:	Geared turbines. 2 shafts. S.H.P.: 24,000=28 kts.
Complement:	200

Notes
Built in China. First of this class, launched about 28 Apr. 1956 at Hutung Shipyard, Shanghai, had light tripod mast, but was later converted with heavier mast and larger bridge as in the other three. Second vessel built by the same concern was launched on 26 Sep. 1956. Both are fitted with mine rails. Third vessel was built at Shanghai. Only four "Riga" class ships were built, the last in 1957 by Hutung Shipyard.

2 Ex-Japanese Escort Destroyer Types

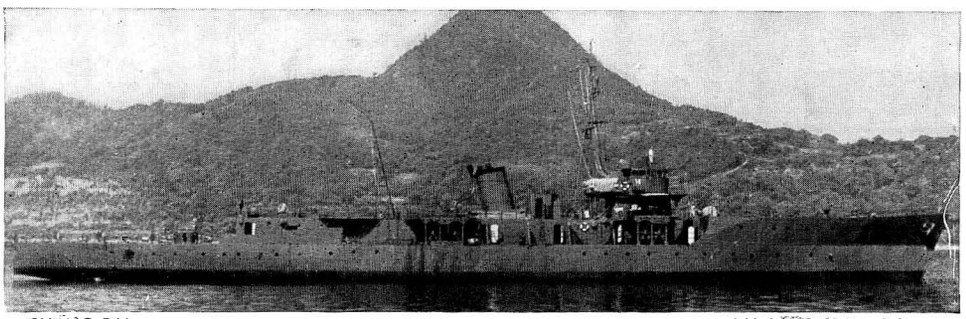
HUI AN (ex-*Shisaka*)

Displacement:	940 tons *standard* (1,020 tons *full load*)
Dimensions:	255 (*w.l.*), 258½ (*o.a.*) × 30 × 10 feet
Guns:	2—4·7 inch, 6 M.G.
Machinery:	2 Diesels. 2 shafts. B.H.P.: 4,200=19·5 kts.
Complement:	150

Notes
Ex-Japanese "Ukuru" class escort destroyer. Launched in 1943. Completed in 1945. *Hui An* is Nationalist name. Was rearmed in 1955.

CHANG PAI (ex-Japanese *Oki*, ex-Chinese *Ku An*)

Displacement:	870 tons *standard* (1,020 tons *full load*)
Dimensions:	237½ (*pp.*), 250 (*w.l.*), 255 (*o.a.*) × 30 × 10 feet
Guns:	2—3·9 inch; 2—45 mm. AA.
A/S weapons:	60 D.C.
Machinery:	2 Diesels. 2 shafts. B.H.P.: 4,200=19·7 kts.
Complement:	150



CHANG PAI *Added* 1953, *Hajime Fukaya*

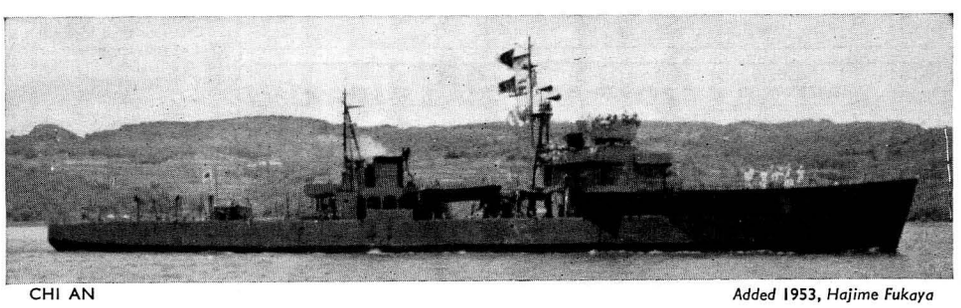
Notes
Ex-Japanese Type A or "Etorofu" class. Built by Uraga Dock Co. Ltd. Laid down on 27 Feb. 1942. Launched on 20 Oct. 1942. Completed on 31 Mar. 1943. Above is new armament mounted in 1955. One raked funnel, two pole masts with tripod bases. Sister ship of *Lin An* held by Nationalists.

5 Ex-Japanese Corvette Types

SHEN YANG (ex-*Yuang An*, ex-*Mukden*, ex-*No. 81*)

Displacement:	745 tons *standard* (810 tons *full load*)
Dimensions:	206⅔ (*pp.*), 216½ (*w.l.*), 221½ (*o.a.*) × 27½ × 9½ feet
Guns:	2—3·9 inch, 4—37 mm. AA.
A/S weapons:	120 D.C.
Machinery:	2 Diesels. B.H.P.: 1,900=16·5 kts.
Radius:	6,500 miles at 14 kts.
Complement:	136

Notes
Ex-Japanese C or No. 1 Type. Built in 1944-45. Above is new armament mounted in *Shen Yang*. Sister ship *Chi An* is now a hulk.

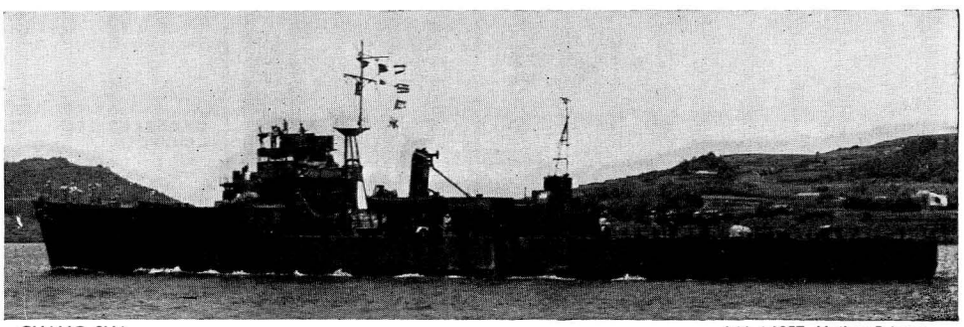


CHI AN *Added* 1953, *Hajime Fukaya*

CHANG SHA (ex-Chinese *Chieh* 12, ex-Japanese *No. 118*)
CHI NAN (ex-*Wei Hai*, ex-*Chieh* 6, ex-*No. 194*)
HSI AN (ex-Chinese *Chieh* 14, ex-Japanese *No. 198*)
WU CHANG (ex-Chinese *Chieh* 5, ex-Japanese *No. 14*)

Name:	*Chang Sha*	*Hsi An*
Builders:	Kawasaki, Sensha Works	Mitsubishi, Zosen Co., Nagasaki
Laid down:	8 June 1944	17 Jan. 1945
Launched:	18 Oct. 1944	26 Feb. 1945
Completed:	27 Dec. 1944	31 Mar. 1945

Displacement:	740 tons *standard* (900 tons *full load*)
Dimensions:	213½ (*pp.*), 223 (*w.l.*), 228 (*o.a.*) × 28½ × 10 feet
Guns:	2—3·9 inch or 4·7 inch, 3—3 inch or 3 or 6—37 mm. AA.; 4—25 mm. or 3—20 mm. AA.
A/S weapons:	120 D.C.
Machinery:	1 steam turbine. S.H.P.: 2,500=17·5 kts.
Radius:	4,500 miles at 14 kts.
Complement:	160



CHANG SHA *Added* 1957, *Hajime Fukaya*

Notes
Ex-Japanese Type D or Kaibokan Class No. 2 Type. Thin trunked funnel amidships. Pole masts with tripod bases

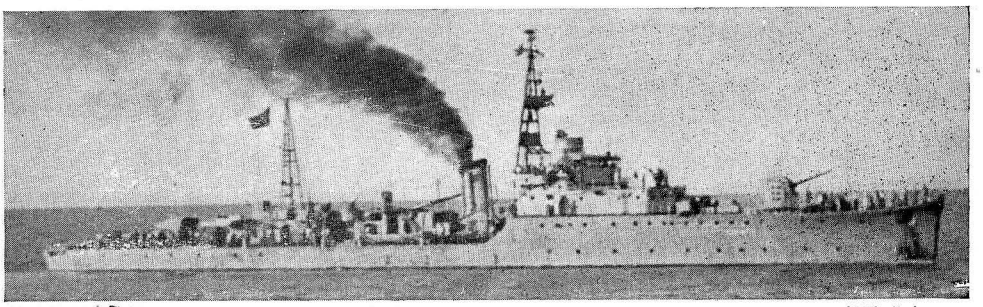
Frigates—*continued*

1 Ex-Japanese Sloop (Gunboat) Type

NAN CHANG (ex-Chinese *Chang Chi*, ex-Japanese *Uji*)

Displacement:	950 tons *standard* (1,206 tons *full load*)
Dimensions:	249½ (*pp.*), 257½ (*w l.*), 264 (*o.a.*) × 31⅝×8¾ feet
Guns:	2—3·9 inch; 2—3 inch, 4—20 mm. AA.
Machinery:	2 turbines. S.H.P.: 4,600=20·15 kts.
Boilers:	2
Radius:	3,460 miles at 14 kts.
Complement:	170

Notes
Former Japanese sloop or gunboat. Built at Sakurajima Works, Osaka. Launched on 25 Sep. 1940. Completed in 1941. Rearmed by Chinese Republicans in 1955.



NAN CHANG 1956, *K. Long*

1 Ex-Canadian Corvette Type

KUANG CHOU (ex-Chinese *Yuan Pei*, ex-H.M.C.S. *Bowmanville*, ex-*Nunney Castle*)

Displacement:	1,100 tons *standard* (1,580 tons *full load*)
Dimensions:	252 (*o.a.*)×36¾×15¾ (*max.*) feet
Guns:	2—5·1 inch, 1—45 mm. AA., 5—37 mm. AA.
Machinery:	Triple expansion. I.H.P.: 2,800=16·5 kts.
Boilers:	2 of three-drum type
Oil fuel:	480 tons
Radius:	8,400 miles at 10 kts.
Complement:	100

Notes
Built by Wm. Pickersgill & Sons, Ltd., Sunderland. Laid down on 12 Aug. 1943. Launched on 26 Jan. 1944. Completed on 8 Oct. 1944.

2 Ex-British Corvette Type

KAI FENG (ex-S.S. *Cloverlock*, ex-H.M.S. *Clover*)
LIN I (ex-S.S. *Ziang Teh*, ex-H.M.S. *Heliotrope*, ex-U.S.S. *Surprise*)

Displacement:	1,020 tons *standard* (1,280 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*)×33×14½ feet
Guns:	2—3·9 inch; 1—45 mm. AA.; 4—37 mm. AA. (*Kai Feng*) 2—3.9 inch; 2—37 mm. AA. (*Lin I*)
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts.
Boilers:	2 S.E.
Fuel:	350 tons coal
Radius:	7,000 miles at 10 kts.
Complement:	78

Notes
Both built in 1940-41. Above three ships were converted from merchant vessels by Chinese Republicans and rearmed. Existence of ex-*Coppercliff* (ex-*Wan Lee*, ex-*Ta Lun*) is doubtful.

SUBMARINES

17 Soviet "W" Class

Displacement:	1,050 tons (*standard*); 1,300 tons (*surface*); 1,600 tons (*submerged*)
Dimensions:	245 (*o.a.*)×24×14 feet
Guns:	Some have 1—3·9 inch in a retractable turret before the conning tower 1 light AA. Others 2—57 mm. 2—25 mm.
Tubes:	8—21 inch (6 forward, 2 aft)
Mines:	40 mines or 20 torpedoes
Machinery:	Diesel-electric. 2 shafts. Diesels: B.H.P.: 4,000=16 to 17 kts. (*surface*) Electric motors: H.P.: 2,500=13 to 16 kts. (*submerged*)
Radius:	13,000 to 16,500 miles

Notes
Medium size class of long range submarines similar to those built in yards throughout the Soviet Union. All streamlined. Equipped with snort. Fitted for minelaying.
15 "W" class built by Kinagnan Shipyard, Shanghai, last two launched Feb.-Mar. 1960. Two "W" class built at Wuchang since June 1959. "W" class building by the Chinese has been terminated, it is reported.

4 Ex-Soviet "S" Class

S 400 S 401 S 402 S 403

Displacement:	780 tons *standard*, 840 tons (*surface*)
Dimensions:	256×21×13 feet
Guns:	1—3·9 inch; 1—45 mm. AA.
Tubes:	6—21 inch
Machinery:	Diesel=15 kts. (*surface*); Electric motors=8 kts. (*submerged*)

Notes
All launched in 1937-40. Particulars of individual boats vary slightly.

4 Ex-Soviet "Shshuka" Class

Displacement:	620 tons (*surface*); 738 tons (*submerged*)
Dimensions:	190½×19½×13 feet
Guns:	2—45 mm. AA., 2 M.G.
Tubes:	6—21 inch (10 torpedoes)
Machinery:	Diesels. B.H.P.: 1,600=15.5 kts. (*surface*) Electric motors. H.P.: 800=8.5 kts. (*submerged*)
Oil fuel:	60 tons
Radius:	4,000 miles at 8 kts.
Complement:	40

Notes
Medium type. All launched in 1935-47. There are variations in design.

4 Ex-Soviet "M-V" Class

M 200 M 201 M 202 M 203

Displacement:	350 tons (*surface*), 400 tons (*submerged*)
Dimensions:	167½×16×12 feet
Guns:	1—45 mm. AA., 1 M.G.
Tubes:	2—21 inch
Machinery:	Diesels. B.H.P.: 1,000=13 kts. (*surface*) Electric motors. H.P.: 800=10 kts. (*submerged*)
Oil fuel:	21 tons
Radius:	4,000 miles at 8.5 kts. (*surface*) 100 miles at 5 kts. (*submerged*)
Complement:	24

Notes
Designed for coastal operations, now used for training and instruction.

1 Ex-Soviet "M-IV" Class

Displacement:	205 tons (*surface*). 256 tons (*submerged*)
Dimensions:	147⅔×11×9 feet
Guns:	1—45 mm. AA., 1 M.G.
Tubes:	2—21 inch.
Machinery:	Diesels. B.H.P.: 800=13 kts. (*surface*) Electric motors H.P.: 400=8 kts. (*submerged*)
Oil fuel:	18 tons
Radius:	3,400 miles at 8 kts. (*surface*) 90 miles at 3 kts. (*submerged*)
Complement:	20

Notes
Launched in 1945. For coastal operations. Enlarged and improved edition of "M 1" type. Transported in sections on the Trans-Siberian Railway and assembled at Vladivostok for service in the Pacific. Used only for instructional purposes.

1 Ex-Soviet "M-I" Class

Displacement:	160 tons (*surface*), 200 tons (*submerged*)
Dimensions:	124×10½×8½ feet
Tubes:	2—21 inch
Machinery:	Diesel. B.H.P.: 685=13 kts. (*surface*) Electric motors. H.P.: 240=7 kts. (*submerged*)
Complement:	15

Notes
No guns. Now used only for training and instructional purposes.

FLEET MINESWEEPERS

11 Soviet "T 43" Class

Displacement:	410 tons *standard* (530 tons *full load*)
Dimensions:	200×27½×9 feet
Guns:	4—37 mm. AA.
Machinery:	Diesels=18 kts.

Notes
A new type of moderately fast fleet minesweepers. Two "T43" class minesweepers were acquired from Russia in 1954-55. Nine "T43" type minesweepers are reported to have been constructed in Republican China shipyards, two in 1956, and the remainder since. The construction of "T43" class fleet minesweepers has been terminated at Wuchang, but continues at Canton, it was reported at the end of 1960.

PATROL VESSELS

2 Soviet "S.O.I." Class Submarine Chasers

Notes
Two of this class reported to have been transferred from the U.S.S.R. in 1960.

24 Soviet "Kronstadt" Class Submarine Chasers

PC 611 PC 612 PC 615 PC 618 PC 622

Displacement:	300 tons
Dimensions:	167⅓×19⅓×9 feet
Guns:	1—3·9 inch; 2—37 mm. AA.; 3—20 mm. AA.
Machinery:	Diesels. 2 shafts. Speed 27 kts.

Notes
Six built in 1950-53 were received from Russia in 1956-57. Eighteen others were built at Shanghai and Canton yards, with 12 completed by 1956. The last of this class of 18 patrol vessels was assembled in 1957. Flush decked, large squat funnels, slightly raked, massive block bridge structure.

6 Ex-Soviet "Artillerist" Class

Displacement:	240 tons
Dimensions:	160¾×19×8½ feet
Guns:	1—3 inch; 12—37 mm. A.A.; 3 M.G.; 2 D.C.T.
Machinery:	Diesels. 2 shafts. B.H.P.: 3,300=23 kts.

Patrol Vessels—*continued*

1 Ex-British "Bathurst" Class

Ex-S.S. **CHEUNG HING** (ex-H.M.A.S. *Bendigo*)

Displacement:	815 tons *standard* (1,025 tons *full load*)
Dimensions:	162 (*pp.*), 186 (*o.a.*)×31×8½ feet
Guns:	2—5·1 inch, 2—37 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,800=15kts.
Boilers:	2 Admiralty 3-drum small tube type
Oil fuel:	170 tons
Radius:	4,300 miles at 10 kts.
Complement:	85

Notes
Built as fleet minesweeper. Launched in Mar. 1941 at Sydney, Australia. Disposed of as surplus after Second World War. Converted from merchant vessel by Chinese Republicans and rearmed.

2 Ex-British "Isles" Class

(ex-H.M.S. *Hoxa*) (ex-H.M.S. ——)

Displacement:	560 tons *standard* (770 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*)×27½×14 feet
Guns:	1—3 inch, 2—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 850=12·5 kts.
Boilers:	1 Cylindrical
Fuel:	183 tons coal
Complement:	45

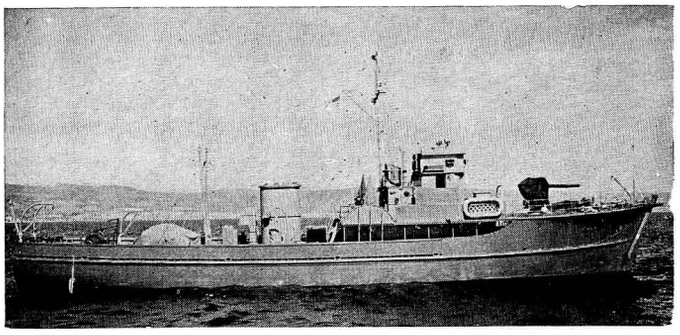
Notes
Former British anti-submarine and minesweeping trawlers. *Hoxa* was built by Cook, Welton & Gemmell, Ltd., in 1941.

(ex-H.M.S. *Bassett*)

Displacement:	461 tons *standard* (696 tons *full load*)
Dimensions:	150 (*pp.*), 160½ (*o.a.*)×27½×10½ feet
Guns:	1—3 inch, 2—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 850=12 kts.
Boilers:	1 Cylindrical
Fuel:	180 tons coal
Complement:	37

Notes
Former British trawler. Built by Henry Robb, Ltd., Leith. Launched on 28 Sep. 1935. Above three ships, converted into merchant vessels, were acquired by Chinese Republicans and rearmed.

COASTAL MINESWEEPERS



YMS 1944, *U.S. Navy, Official*

5 Ex-U.S. YMS Type

Ex-YMS 339 **Ex-YMS 346** **Ex-YMS 367** **Ex-YMS 393** **Ex-YMS 2017**

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136×24½×6 feet
Guns:	1—3 inch, 2—20 mm., 2 D.C.T.
Machinery:	2 G.M. Diesels. B.H.P.: 1,000=13 kts.
Complement:	50

Notes
Built of wood in U.S.A. in 1942-43, and transferred to the Chinese Navy in 1948. Some are fitted as minesweepers, others as gunboats.

2 Ex-Japanese AMS Type

Ex-No. 4 **No. 201** (ex-*No.* 14)

Displacement:	215 to 222 tons
Dimensions:	97½ (*o.a.*)×19½×7½ (*max.*) feet
Guns:	1—3·1 inch, 4—25 mm. (No. 201, 1—40 mm., 1—25 mm., 2—13 mm., 3—7·7 mm.)
Machinery:	1 Diesel. B.H.P.: 300=9·5 kts.
Radius:	1,700 miles at 9·5 kts.

Notes
Ex-Japanese auxiliary minesweepers. Trawler type. No. 201, completed in 1943, was delivered to China at Tsingtau on 3 Oct. 1947, and taken over by the Republicans. Nos. 19 and 22 were taken over by the Nationalists, see later page.

MOTOR GUNBOATS

6 "Shanghai II" Class

Notes
Two centreline trainable torpedo tubes abaft the superstructure. Six boats of this class built, with construction continuing at Shanghai at the rate of four to six per year.

"Shanghai" Class

Notes
A new class, the prototype of which appeared in 1959. 37 mm. mountings forward and aft. 120 feet in length.

"Swatow" Class

Notes
A new class with "P 6" type M.T.B. hulls, mounting twin 37 mm. guns fore and aft, but with some units having only one twin 37 mm. mounting. No torpedo tubes. In 1958 "P-6" hulls were converted to "Swatow" class motor gunboats at Dairen, Canton, and Shanghai.

3 Ex-U.S. Type

Ex-PGM 12 **Ex-PGM 14** **KAN TANG** (ex-*PGM* 15)

Displacement:	280 tons *standard*, 348 tons (trial), 450 tons *full load*
Dimensions:	170 (*w.l.*), 173½ (*o.a.*)×23×11 (*max.*) feet
Guns:	1—3 inch, 50 cal. d.p., 2—40 mm. AA. (twin)
Machinery:	G.M. Diesel. 2 shafts. B.H.P.: 2,800=20 kts.
Complement:	65

Notes
Former American patrol vessels (motor gunboats).

MOTOR TORPEDO BOATS

"P 4" Class

Notes
Several of this class reported. There are approximately 100 other motor torpedo boats of 40ft. and 70ft. length, with armament of 2 torpedo tubes and twin M.G.

60 "P 6" Class

Notes
"P-6" class motor torpedo boats are under construction in Chinese Republican yards; 60 have been built since 1956.

KUAI 102

Displacement:	60 tons *standard*
Dimensions:	92×14×5 feet
Machinery:	Speed: 30 to 33 kts. (*max.*)
Complement:	14

Notes
Built in Germany in 1936-37. A large motor torpedo boat is reported to be at Shanghai.

PATROL CRAFT

2 Ex-Japanese Type

Ex-KWANG KUO (ex-Japanese *No.* 223) **Ex-HSIEN FENG** (ex-Chinese *Kao Ming*, ex-Japanese)

Displacement:	135 tons
Dimensions:	96×19×9 feet

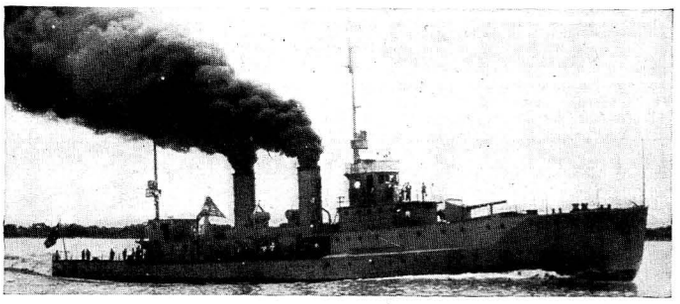
Notes
S.C. Type. Built in 1941-43. (The ex-British harbour defence motor launches were lost.)

GUNBOATS

Ex-WEI NING

Displacement:	300 tons *standard*
Dimensions:	141×22×8 feet
Guns:	2—2·4 inch, 3 M.G.
Machinery:	Reciprocating. I.H.P.: 600=10 kts.

Notes
Built at Shanghai in 1933. Reported sunk in 1949 but believed to have been salvaged.



YUNG SUI *Added* 1957

Ex-YUNG SUI

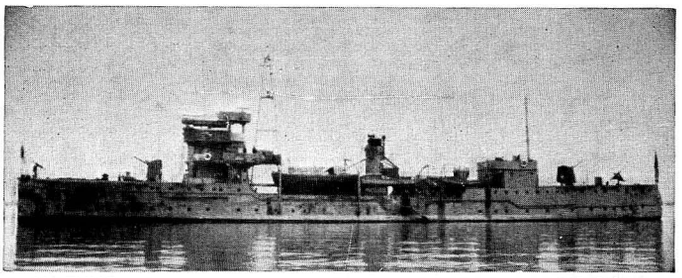
Displacement:	650 tons
Dimensions:	225×30×6 feet (*mean*), 7 (*max.*) feet
Guns:	1—3 inch AA., 1—40 mm. AA., 4 M.G.
Machinery :	Triple expansion. 2 shafts. I.H.P.: 4,000=12 kts.
Boilers:	2 Yarrow. Coal fired
Complement:	152

Notes
Built by Kiangnan Dock Co., Shanghai. Launched in 1929. Salvaged and repaired sinking in 1949. *Yung Sui* is ex-Chinese Nationalist name.

CH'ANG CHIANG (ex-*Ming Chuan*)

Displacement:	464 tons
Dimensions:	176½×26×6 feet (*mean*), 6½ (*max.*) feet
Guns:	Only 3 M.G. at present
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,200=12 kts.
Boilers:	2 Yarrow
Coal:	280 tons
Complement:	119

Notes
Built by Kiangnan Dock Co., Shanghai. Launched in 1929.

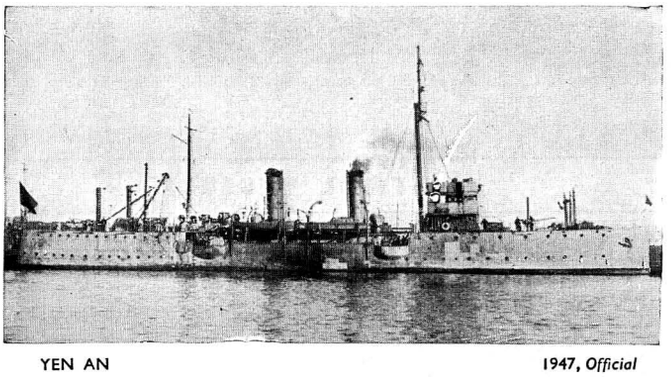


AN TUNG 1947, *Official*

Ex-AN TUNG (ex-Japanese *Ataka*, ex-*Nakasa*)

Displacement:	727 tons
Dimensions:	222×32×7½ feet
Guns:	2—3 inch, 5—25 mm., 6 M.G.
Machinery:	Triple expansion. I.H.P.: 1,700=11 to 14 kts.
Boilers:	2 Kampon

Notes
Launched in April, 1922.



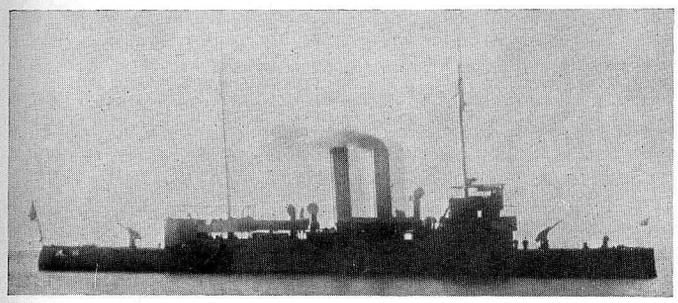
YEN AN 1947, *Official*

Ex-YEN AN (ex-*Yung Chi*, ex-Japanese *Asuka*, ex-*Yung Chi*)

Displacement:	860 tons
Dimensions:	205 (*pp.*), 215½ (*o.a.*)×29½×11½ feet (*max.*)
Guns:	2—3 inch, 4 M.G.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,350=11 kts.
Boilers:	2 cylindrical
Coal:	156 tons
Complement:	143

Notes
Built by Kiangnan Dock Co., Shanghai. Launched in 1915. Sunk in 1945 and later salvaged.

Gunboats—*continued*

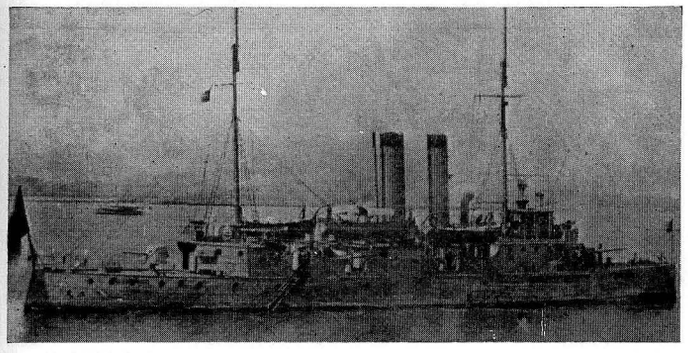


CHU TUNG — *Added* 1957

Ex-CHU TUNG

Displacement:	740 tons
Dimensions:	200×30×8 feet
Guns:	2—3 inch, 5—25 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,350=11 Kts.
Boilers:	Yarrow
Coal:	150 tons
Complement:	117

Notes
Built by Kawasaki Co., Kobe. Launched in 1906. Sister ship of *Chu Kwan* (Nationalist).



CHIANG YUAN — *Added* 1957

CHIANG YUAN

Displacement:	550 tons
Dimensions:	170 (*pp.*), 180 (*o.a.*)×28×7 feet
Guns:	1—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 950=9 kts.
Boilers:	Watertube
Coal:	113 tons
Complement:	127

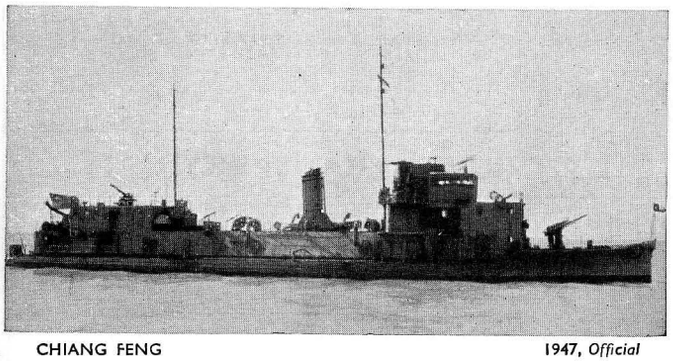
Notes
Bu ilt by Kawasaki Co., Kobe. Launched in 1905.

TING HSIN **TUNG TEH**

Displacement:	500 tons *standard*
Guns:	1—3 inch, 4—47 mm.
Machinery:	Speed: 11 to 15 kts. *max.*
Fuel:	Coal

Notes
Captured by Chinese Republicans in 1949.

RIVER GUNBOATS



CHIANG FENG — 1947, *Official*

Ex-CHIANG FENG (ex-Chinese *Kiang Shih*, ex-Japanese *Fushima*)
Ex-CHIANG HSI (ex-Chinese *Nan Chang*, ex-Japanese *Sumida*)

Displacement:	373·6 tons, official Japanese figure, 320 tons *standard*
Dimensions:	159⅛ (*pp.*), 164 (*w.l.*), 165 (*o.a.*)×32⅛×4½ feet
Guns:	1—3·1 inch H.A. short cal., 8—25 mm. and other cal. AA.
Machinery:	2 geared turbines. 2 shafts. S.H.P: 2,200=16·7 kts. (designed)
Boilers:	2 Kampon
Radius:	1,496 miles at 14 kts.
Complement:	64

Notes
Both ships were built by Fujinagata Co., Osaka. Launched on 26 March 1939 and 30 October 1939, respectively. Completed on 15 July 1939 and 31 May 1940, respectively. Were the latest river gunboats in the Japanese Navy. *Fushima* bombed and bottomed at Anking on 29 Nov. 1944, was salvaged and towed to Shanghai for repairs and was moored there at the end of the war. *Sumida* was at Shanghai at the end of the war; her armament has been removed for land batteries

River Gunboats—*continued*

Ex-YING HAO (ex-H.M.S. *Sandpiper*)

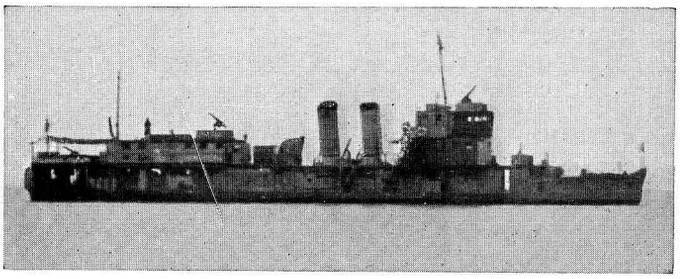
Displacement:	185 tons
Dimensions:	160×30⅔×2 (*mean*) feet
Guns:	1—3·7 inch howitzer, 9 smaller
Machinery:	2 sets triple expansion. 2 shafts I.H.P.: 600=11 kts.
Boilers:	1, of Admiralty 3-drum type
Complement:	40

Notes
Built by John I. Thornycroft & Co. Ltd., Southampton. Launched on 9 June, 1933. Presented to Nationalist China by Great Britain in Feb. 1942, and subsequently taken over by the Republicans. Now has mainmast.

Ex-NAN CHIANG (ex-*Ying Teh*, ex-*Lung Huan*, ex-H.M.S. *Falcon*)

Displacement:	372 tons
Dimensions:	150×28⅔×5 (*mean*) feet
Guns:	1—3·7 inch howitzer, 2—6 pdr., 10 M.G.
Machinery:	Parsons geared turbines. S.H.P.: 2,250 = 15 kts.
Boilers:	2, of Admiralty 3-drum type
Fuel:	84 tons oil
Complement:	55

Notes
Built by Yarrow & Co., Ltd., Scotstoun, Glasgow. Launched in 1931. Presented to Nationalist China by the British Government in Feb. 1942, and subsequently taken over by the Republicans.



YUNG PING — 1947, *Official*

Ex-YUNG AN (ex-*Futami*) **Ex-YUNG PING** (ex-*Atami*)

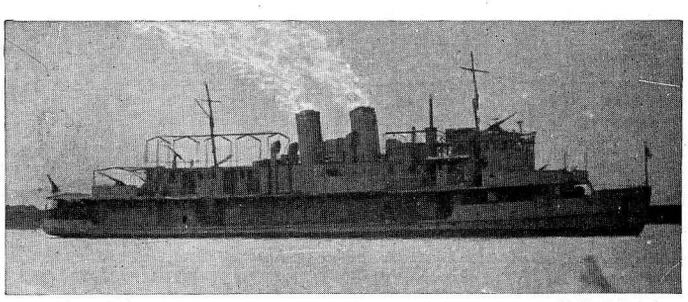
Displacement:	170 tons
Dimensions:	148½×22×4⅜ feet
Guns:	1—47 mm. AA., 5—25 mm. AA., 3 M.G.
Machinery:	2 sets triple expansion. 2 shafts. I.H.P.: 1,200=12 kts.
Boilers:	2 Kampon
Oil fuel:	53 tons
Complement:	77

Notes
Both launched in 1929 Former Japanese river gunboats.

Ex-YING SHAN (ex-H.M.S. *Gannet*)

Displacement:	310 tons
Dimensions:	177 (*w.l.*), 184⅔ (*o.a.*)×29×3¼ feet
Guns:	2—3 inch AA., 8 M.G.
Machinery:	Geared turbines. Designed S.H.P.: 2,250=16 kts.
Boilers:	Yarrow
Fuel:	60 tons oil
Complement:	55

Notes
Designed by Yarrow. Built by Yarrow & Co. Ltd., Scotstoun, Glasgow. Launched in 1927. Presented to Nationalist China by Great Britain in Feb. 1942, and subsequently taken over by the Republicans.



TAI YUAN — 1947, *Official*

Ex-MEIYUAN (ex-U.S.S. *Tutuila*) **Ex-TAI YUAN** (ex-*Tatara*, ex-U.S.S. *Wake*, ex-*Guam*)

Displacement:	370 tons *standard*
Dimensions:	150 (*w.l.*)×159½ (*o.a.*)×27×5¼ (*mean*—fresh water), 6 (*max.*) feet
Guns:	2—3 inch, 23 cal., 10 M.G.
Machinery:	Triple expansion. I.H.P.: 1,950=12 kts.
Oil fuel:	75 tons
Complement:	70

Notes
Built by Kiangnan Dock Co., Shanghai. Launched on 14 June and 28 May 1927 respectively. *Mei Yuan* was presented to China by the U.S. Government in March 1942. Sister ship was recovered from Japanese hands and presented to China in 1946.

Ex-CHANG TEH (ex-*Seta*)

Displacement:	305 tons
Dimensions:	180×27×3½ feet
Guns:	2—3 inch, 6 M.G.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,100=14 kts.
Boilers:	2 Kampon
Oil fuel:	85 tons
Complement:	82

Notes
Japanese prize, built at Harima yard. Launched in 1923. Ex-Japanese *Katada* of the same class may still exist.

River Gunboats—*continued*

Ex-KIANG KUN (ex-Japanese *Narumi*, ex-Italian *Ermanno Carlotto*)

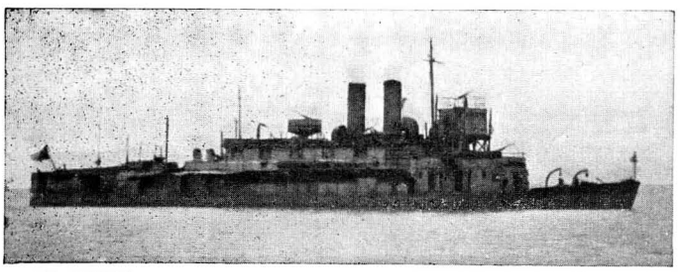
Displacement:	180 tons *standard*
Dimensions:	160×24½×2¾ feet
Guns:	2—3 inch, 6 M.G.
Machinery:	Designed I.H.P.: 1,100=14 kts. (*max.*
Boilers:	2 Yarrow
Oil:	56 tons
Complement:	60

Notes
Built by Shanghai Dock & Engineering Co. Launched in 1921. Completed in 1921. Shallow draught river gunboat. Twin screws in tunnels.

Ex-FAKU (ex-French *Balny*)

Displacement:	201 tons
Dimensions:	167¼, 179 (*o.a.*)×23×5 feet
Guns:	1—3 inch AA., 2—1 pdr., 4 M.G.
Machinery:	Triple expansion. I.H.P.: 920=14 kts.
Boilers:	2 Fouche water tube
Fuel:	45 tons coal
Range:	900 miles at 14 kts.
Complement:	49

Notes
Built by Chantiers de Bretagne, Nantes. Launched in 1920. Completed in 1921.



HO HSEUH 1947, *Official*

Ex-HO HSEUH (ex-Chinese *Yang Ch'i*, ex-Japanese *Toba*)

Displacement:	215 tons
Dimensions:	180×27×2½ feet (*mean*), 4 feet (*max.*)
Guns:	3—3 inch, 3—25 mm. AA., 3 M.G.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 900=9 kts.
Boilers:	2 Kampon
Coal:	80 tons
Complement:	86

Notes
Former Japanese shallow draught river gunboat. Built by Sasebo, Japan. Launched in 1911.

Ex-WU FENG (ex-Japanese *Maiko*, ex-Portuguese *Macau*)

Displacement:	100 tons
Dimensions:	120 (*o.a.*)×20×2 feet
Guns:	2—6 pdr., 3 M.G.
Machinery:	H.P.: 250=11·8 kts.
Boilers:	1 Yarrow
Complement:	24

Notes
Former Portuguese very shallow draught river gunboat. Built by Yarrow & Co. Ltd., Scotstoun, Glasgow. Launched in 1909.

NETLAYER

Ex-Japanese No. 101, (ex-H.M.S. *Barlight*)

Displacement:	750 tons *standard* (1,000 tons *full load*)
Dimensions:	150 (*pp.*), 173¾ (*o.a.*)×32¼×9½ feet
Guns:	1—3 inch d.p., 6 M.G.
Machinery:	Triple expansion. I.H.P.: 850=11.75 kts.
Boilers:	2 single-ended
Complement:	32

Notes
Boom defence vessel of British " Bar " Class. Built by Lobnitz & Co. Ltd., Renfrew. Launched on 10 Sept. 1938. Captured by Japanese in 1941. Acquired by China in 1945.

SURVEYING SHIPS

Ex-CHUNG NING (ex-Japanese *Takebu Maru*)

Displacement:	200 tons *standard*
Dimensions:	115×16×6 feet
Machinery:	Speed: 10 kts.

Notes
Former Japanese. Employed for hydrographic and general purpose duties.

Ex-FUTING

Displacement:	160 tons *standard*
Dimensions:	90×20×8 feet
Machinery:	Speed: 11 kts.

REPAIR SHIP

Ex-HSING AN (ex-*Achilles*, *ARL* 41, ex-*LST* 455)

Displacement:	1,625 tons *light*, 3,960 tons *normal* (4,100 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*)×50×11 feet
Guns:	1—3 inch, 8—40 mm. AA.
Machinery:	Diesel-electric. 2 shafts B.H.P.: 1,800=11 kts.

Notes
Ex-U.S. Launched on 17 Oct., 1942. Burned and grounded in 1949, salved and refitted.

LANDING SHIPS

12 Ex-U.S. LST Type

Ex-CHING KANG SHAN
Ex-CHUNG 101 (ex-U.S.S. *LST* 804)
Ex-CHUNG 102 (ex-U.S.S. *LST*)
Ex-CHUNG 106 (ex-U.S.S. *LST* 589)
Ex-CHUNG 107 (ex-U.S.S. *LST* 1027)
Ex-CHUNG 110
Ex-CHUNG 111 (ex-U.S.S. *LST* 805)
Ex-CHUNG 116 (ex-U.S.S. *LST* 406)
Ex-CHUNG 122 (ex-*Ch'ing Ling*)
Ex-CHUNG 125
No. 16
No. 258

Displacement:	1,653 tons *standard* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*)×50×14 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700=11 kts.
Complement:	80 to 210

13 Ex-U.S. LSM Type

Ex-HUA 201 (ex-U.S.S. *LSM* 112)
Ex-HUA 202 (ex-U.S.S. *LSM* 248)
Ex-HUA 204 (ex-U.S.S. *LSM* 430)
Ex-HUA 205 (ex-U.S.S. *LSM* 336)
Ex-HUA 207 (ex-U.S.S. *LSM* 282)
Ex-HUA 208 (ex-U.S.S. *LSM* 42)
Ex-HUA 209 (ex-U.S.S. *LSM* 153)
Ex-HUA 211
Ex-HUA 212

Ex-CHUAN SHIH SHUI
Ex-HUANG HO (ex-Chinese *Mei Sheng*, ex-U.S.S. *LSM* 433)
Ex-HUAI HO (ex-Chinese *Wan Fu*)
Ex-YUN HO (ex-Chinese *Wang Chung*)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*)×34½×8¾ feet
Machinery:	Diesel. 2 shafts. 2,800=12 kts.
Complement:	60 to 120

Notes
Built in U.S.A. in 1944-45. Some were converted for minelaying Armament varies.

LANDING CRAFT

15 Ex-U.S. LSIL Type

MIN 301 **MIN 303** **MIN 306** **MIN 311** **MIN 312** **MIN 313** **MIN 319** **MIN 321** **MIN 325** **MIN 331**

Ex-CHU TIEN (ex-Chinese *Lien Kuang*, ex-U.S.S. *LCI* 517)
Ex-KU CHOU
Ex-U.S.S. LCI 488
Ex-LIEN PI (ex-U.S.S. *LCI* 514)
Ex-YUNG KAN (ex-Chinese *Lien Yung*, ex-U.S.S. *LCI* 632)

Displacement:	230 tons *light* (387 tons *full load*)
Dimensions:	159×23⅜×5⅜ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,320=14 kts.
Complement:	30 to 80

Notes
Built in U.S.A. in 1943-45. Reported to be fitted with rocket launchers. Some are fitted as minesweepers. Armament varies.

2 Ex-U.S. LCU (ex-LCT) Type

Ex-HO CHIEN (ex-U.S.S. *LCT* 515) **Ex-HO YUNG** (ex-U.S.S. *LCT* 1171)

Displacement:	160 tons *light* (320 tons *full load*)
Dimensions:	105 (*w.l.*), 119 (*o.a.*)×33×5 feet
Machinery:	Diesel. 3 shafts. B.H.P.: 475=10 kts.
Oil fuel:	80 tons

Notes
Former United States Navy Tank Landing Craft later reclassified as Utility Landing Craft.

SUPPLY SHIPS

Ex-U.S.Army FS 146 (ex-*Clover*)
Ex-U.S. Army FS 155 (ex-*Violet*)
Ex-TA CHEN (ex-U.S.)
Ex-U.S. Army FS ——
Ex-U.S. Army FS ——

Displacement:	1,000 tons *standard*
Dimensions:	175 (*o.a.*)×32×10 feet
Machinery:	General motors diesels. B.H.P.: 1,000=12 kts.

Notes
Built in U.S.A. in 1944-45. Two are reported to be employed as motor torpedo boat tenders.

TROOP TRANSPORT

CHIAO JEN

Displacement:	1,873 tons

Notes
Formerly a Chinese Nationalist troop transport. Mined on 28 July 1949. Suffered machinery derangement but no hull damage. After survey crew hoisted Communist flag and took her to Canton.

OILERS

Notes
One or more ex-U.S. Navy 174 ft. yard oilers and other naval tankers are in service.

TUGS

Notes
One or more ex-U.S. Army 149 fc. LT class tugs and other naval tugs are in service.

COLOMBIA

Administration

Commandant of the Navy :
Rear Admiral Augusto Porto Herrera
Chief of Naval Operations (Executive Officer of the Navy):
Rear Admiral Hernando Beron Victoria.
Chief of Naval Staff:
Captain Alfonso Ochoa.

Ships

Ships' names are prefaced by the letters "A.R.C." (Armada Republica de Colombia)

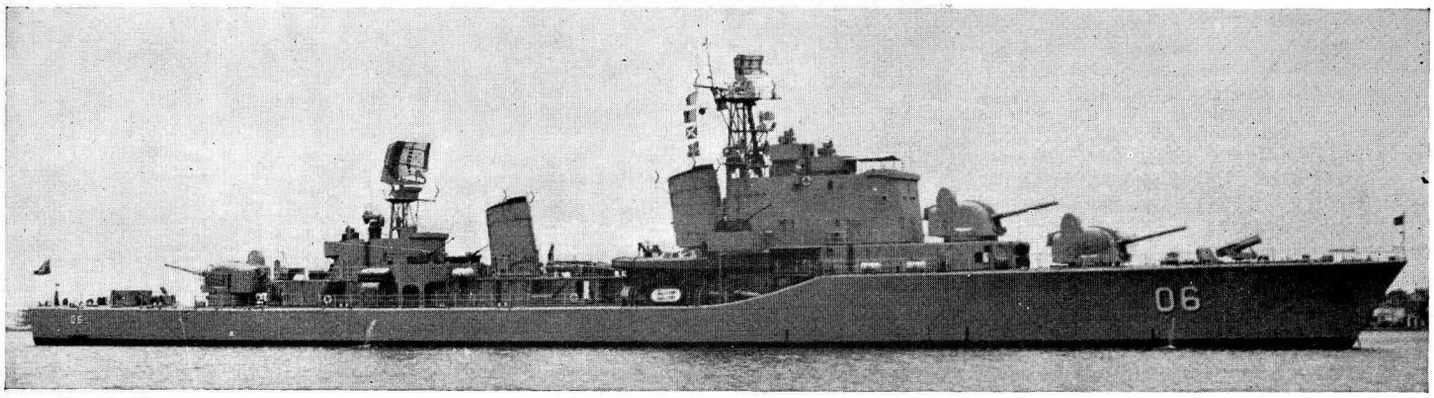
Personnel

1962: 7,000 officers and men

Mercantile Marine

Lloyd's Register of Shipping:
36 vessels of 113,999 tons *gross*

DESTROYERS (*Destructores*)



7 DE AGOSTO

1961, *Colombian Navy, Official*

2 Modified Swedish "Halland" Type

SIETE DE AGOSTO — **VEINTE DE JULIO**

No	Name	Laid down	Launched	Completed
06	*7 de Agosto*	Nov. 1955	19 June, 1956	31 Oct. 1958
05	*20 de Julio*	Oct. 1955	26 June, 1956	15 June, 1958

Photograph Notes
A photograph of *20 de Julio* appears in the 1958-59 to 1960-61 editions.

Displacement: 2,650 tons *standard* (3,100 tons *full load*) officially revised figures
Dimensions: 380½ (*bp.*), 397⅛ (*o.a.*) × 40⅜ × 12½ feet
Guns: 6—4·7 inch, (3 twin turrets), 4—40 mm. AA. (single mounts)
Tubes: 4—21 inch
A/S Weapons: 1 quadruple rocket launcher
Machinery: De Laval double reduction geared turbines. 2 shafts. S.H.P.: 55,000= 35 kts.
Boilers: 2 Penhoët, Motala Verkstad design
Complement: 260 (20 officers, 240 men)

Notes
Modified "Halland" type ordered in 1954. Built in Sweden by Götaverken and Kockums respectively. The hull and machinery are similar to the Swedish "Halland" type, but they have different armament (six 4·7 inch instead of four, no 57 mm. guns, four 40 mm. guns instead of six, and four torpedo tubes instead of eight) and different accommodation arrangements. They have an anti-submarine rocket projector, more radar and communication equipment, and air conditioned living spaces, having been designed for the tropics. The change of name from *13 de Junio* to *7 de Agosto* was decreed by the Colombian Navy in July 1957.

1 Ex-U.S. "Fletcher" Class

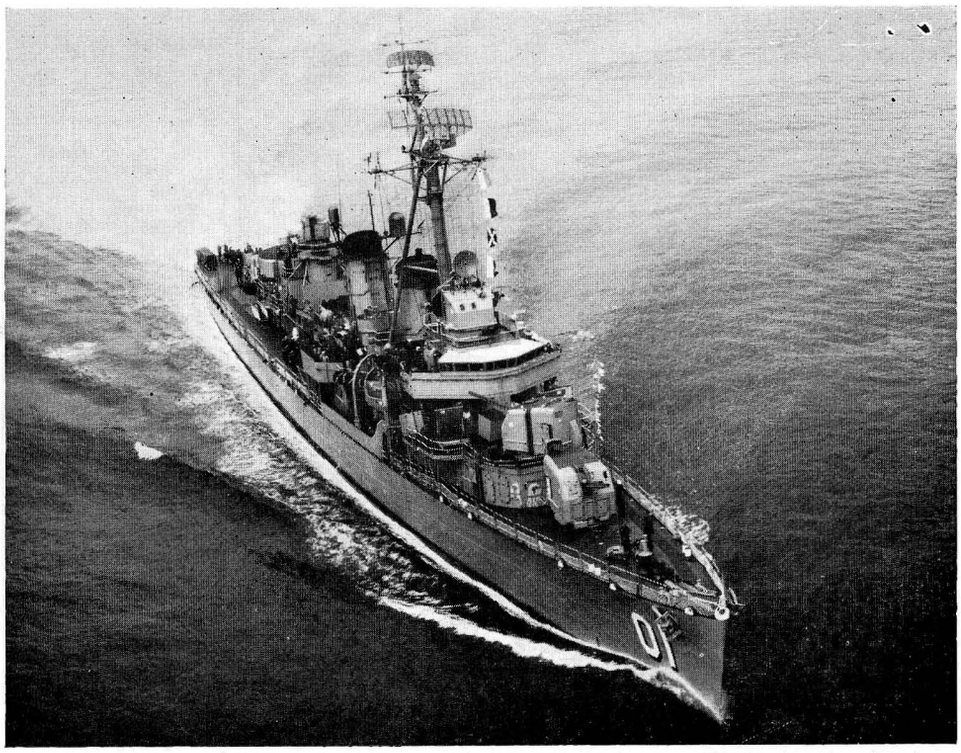
ANTIOQUIA (ex-U.S.S. *Hale*, DD 642)

Pennant No.: DD 01
Builders: Bath Iron Works Corporation, Bath, Maine
Laid down: 23 Nov. 1942
Launched: 4 Apr. 1943
Completed: 15 June 1943

Displacement: 2,100 tons *standard* (3,050 tons *full load*)
Dimensions: 376½ (*o.a.*) × 39½ × 12¼ (*mean*), 18 (*max.*) feet
Guns: 4—5 inch, 38 cal., 6—3 inch, 50 cal., AA.
Tubes: 5—21 inch (quintupled).
A/S weapons: 2 fixed Hedgehogs, 1 D.C. rack, 2 side-launching torpedo racks.
Machinery: 2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000= 35 kts.
Boilers: 4 Babcock & Wilcox
Oil fuel: 650 tons
Radius: 6,000 miles at 15 kts.
Complement: 300 (peace) 350 (war)

Notes
Former United States destroyer of the "Fletcher" class. Transferred from the U.S. Navy to the Columbian Navy at Boston, Massachusetts, in 1961, and renamed *Antioquia*.

Recent Disposal
The former destroyer named *Antioquia* (ex-Portuguese *Douro*) and her sister ship *Caldas* (ex-Portuguese *Tejo*) were scrapped in 1961.



ANTIOQUIA (ex-U.S.S. *Hale*)

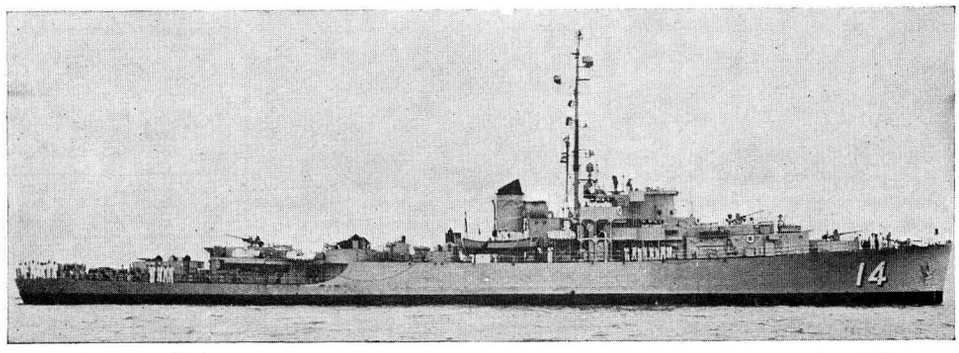
1961, *Colombian Navy, Official*

FRIGATES (*Fragatas*)

3 "Almirante Padilla" Class
Ex-U.S. PF Type

ALMIRANTE BRIÓN (ex-U.S.S. *Burlington*)
ALMIRANTE PADILLA (ex-U.S.S. *Groton*)
CAPITAN TONO (ex-U.S.S. *Bisbee*)

Displacement: 1,430 tons *standard* (2,100 tons *full load*) *Capitan Tono* 2,200 tons *full load*)
Dimensions: 303½ × 37½ × 13⅜ feet
Guns: 3—3 inch, 50 cal.: 6—40 mm. AA.
A/S weapons: 1 Hedgehog, 6 D.C.T., 2 D.C. racks
Machinery: Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers: 2, of 3-drum type
Oil fuel: 290 tons
Complement: 120 (*Capitan Tono* 103, *Almirante Padilla* 147)



ALMIRANTE BRION

1956, *Colombian Navy, Official*

Frigates—*continued*

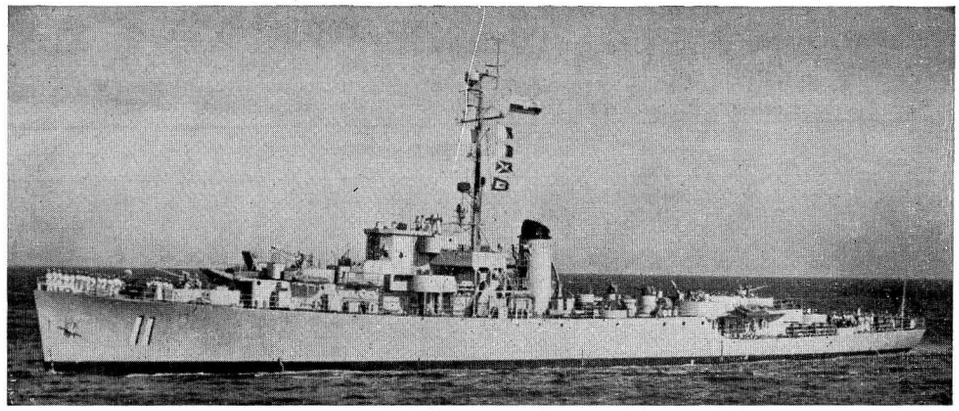
"Almirante Padilla" Class—*continued*

Notes

Almirante Padilla was purchased from the U.S. Navy in 1947. and served in Korean waters in 1951. *Capitan Tono* (transferred to Russia during Second World War) was acquired from the U.S. in 1952, and served 14 months in Korean waters as did *Almirante Brión* acquired in 1953.

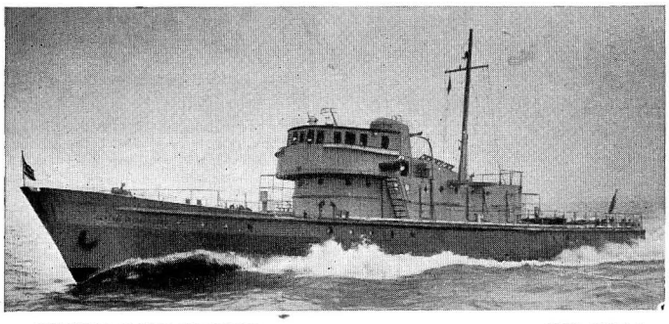
Pennant No.	Name	Builders
FG 14	*Almirante Brión*	Consolidated Steel Corp., Los Angeles
FG 11	*Almirante Padilla*	Walter Butler, Superior, Wisc.
FG 12	*Capitan Tono*	Consolidated Steel Corp., Los Angeles

Name	Laid down	Launched	Completed
Almirante Brion	19 Oct. 1943	7 Dec. 1943	3 Apr. 1944
Almirante Padilla	15 July 1943	14 Sep. 1943	15 Sep. 1944
Capitan Tono	7 Aug. 1943	8 Sep. 1943	4 Feb. 1944



ALMIRANTE PADILLA — *Colombian Navy, Official*

COASTGUARD VESSELS



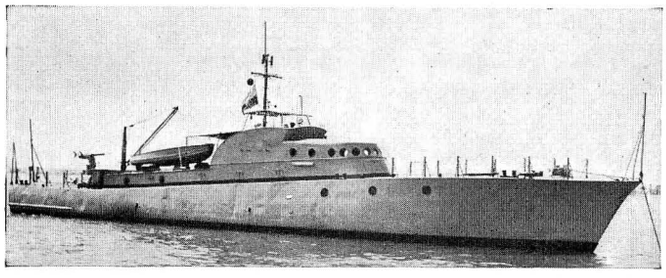
GENERAL VASQUES COBO — 1957, *Official*

GENERAL RAFAEL REYES **GENERAL VASQUES COBO**

Displacement:	146 tons
Dimensions:	118 (*pp.*), 124⅔ (*o.a.*) × 23 × 5 feet
Guns:	1—40 mm.
Machinery:	2 Maybach diesels. B.H.P.: 2,400 = 18 kts. (20 kts. on trials)
Oil fuel:	15 tons
Radius:	1,000 miles
Complement:	20

Notes

Built by Lürssen Werft, Vegesack, Germany. Launched on 10 Nov. 1955, and 27 Sept., 1955 respectively. Delivered in May 1956. Pennant Nos. AN 01 and AN 02, respectively.



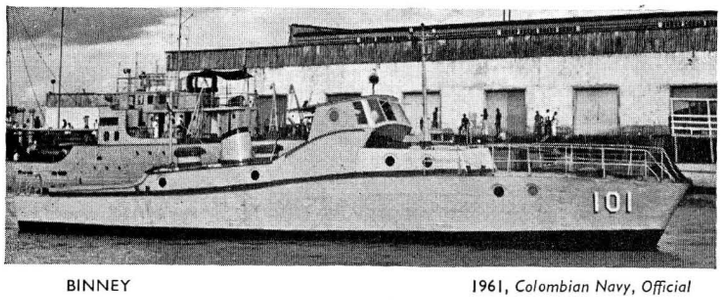
ESPARTANA — 1957, *Colombian Navy, Official*

ESPARTANA

Displacement:	50 tons
Dimensions:	90 (*w.l.*), 96 (*o.a.*) × 13 × 4 feet
Guns:	1—20 mm. AA.
Machinery:	2 Diesels. B.H.P: 300 = 13·5 kts.
Oil fuel:	6 tons
Complement:	11

Notes

Constructed by the Engineer of the Naval Dockyard at Cartagena. Launched on 22 June 1950. Pennant No GC 100



BINNEY — 1961, *Colombian Navy, Official*

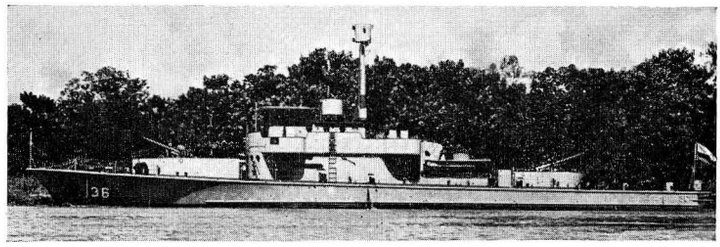
R. D. BINNEY

Displacement:	25 tons
Dimensions:	63 × 11 × 3½ feet
Machinery:	Diesels. B.H.P.: 115 = 10 kts.
	3 tons

Notes

Built at Cartagena. Launched in 1947. Used as buoy and lighthouse inspection boat. Named after the first head of Colombian Naval Academy, Lieutenant-Commander Ralph Douglas Binney, R.N. Pennant No GC 101

RIVER GUNBOATS



LETICIA — 1961, *Colombian Navy, Official*

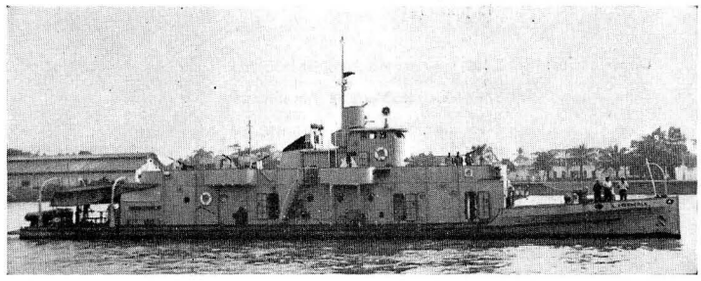
3 "Arauca" Class

ARAUCA **LETICIA** **RIOHACHA**

Displacement:	184 tons
Dimensions:	163¼ (*o.a.*) × 23½ × 2¾ feet
Guns:	2—3 inch d.p., 50 cal. 4—20 mm.
Machinery:	2 Caterpillar engines. B.H.P.: 916 = 13 kts.
Range:	1,000 miles
Complement:	43

Notes

Built by Union Industrial de Barranquila (Unial) Colombia. Launched in 1955. Completed in 1956. Pennant Nos. CF 37, 36 and 35, respectively. A photograph of *Arauca* appears in the 1957-58 to 1960-61 editions.



BARRANQUILLA — 1961, *Colombian Navy, Official*

3 "Barranquila" Class

BARRANQUILA **CARTAGENA** **SANTA MARTA**

Displacement:	142 tons
Dimensions:	130 (*pp.*), 137¾ (*o.a.*) × 23½ × 2¾ (*max.*) feet
Guns:	2—3 inch, 1—20 mm. AA., 4 M.G.
Machinery:	2 Gardner semi-Diesel engines. 2 shafts, working in tunnels. H.P.: 600 = 15·5 kts.
Fuel:	24 tons
Complement:	39

Notes

These three vessels represented an extraordinarily efficient type of shallow draught gunboat, incorporating many improvements on previous types. Hull is of galvanised steel, and machinery spaces, cabins and magazines are of bullet-proof plating. Ventilation and refrigerating plant designed to secure excellent habitability. Names are those of Colombian ports. All built by Yarrow & Co., Ltd., Scotstoun, Glasgow, and launched on 10 May 1930, 26 Mar. 1930, and 16 Apr. 1930 respectively. *Barranquilla* and *Santa Marta* have been modernised in Cartagena, with new armament, engines, auxiliaries and superstructure. Pennant Nos. CF 31, 33 and 32, respectively. A photograph of *Cartagena* appears in the 1957-58 to 1960-61 editions.

Recent Disposal

The river gunboat *Presidente Mosquera* has been scrapped, it was officially stated in 1961.

Construction Notes

It was officially stated in 1962 that the gunboat *Renato Beluche* was never completed.

TENDERS

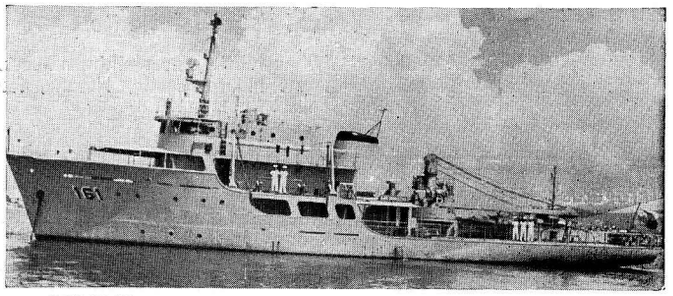
JAMARY

Dimensions:	146 × 25½ × 8 feet
Complement:	43

Notes

Small tender equipped as a naval hospital ship with beds for 80 patients. There are also he floating docks *Rodriguez Zamora* and *Manuel Lara*, and the repair boat *Victor Cubillos*.

Tenders—*continued*

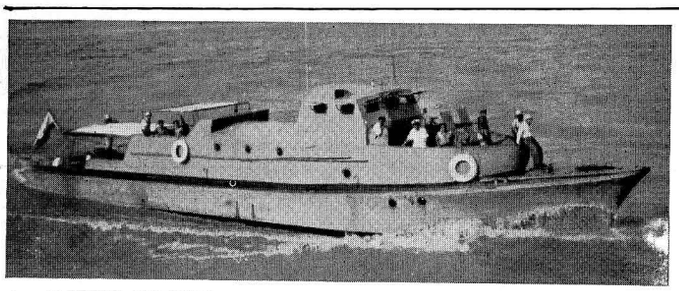


GORGONA 1956, *Colombian Navy, Official*

GORGONA
Displacement: 560 tons
Dimensions: 135×29½×9⅓ feet
Machinery: 2 Nohab diesels. B.H.P.: 910=13½ kts.

Notes
Built by Astillero Lidingoverken. Launched in May 1954. Pennant No. FB161.

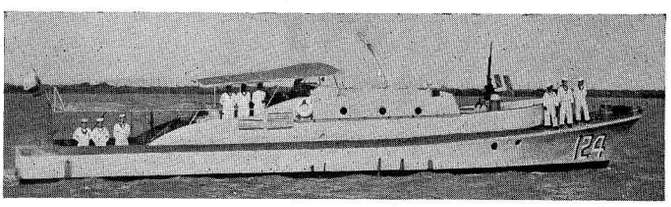
PATROL MOTOR LAUNCHES



ALBERTO RESTREPO *Added 1957, Official*

ALBERTO RESTREPO (1 Oct. 1952) **HUMBERTO CORTES** (26 Nov. 1952)
CARLOS GALINDO (1954) **JUAN LUCIO** (2 May 1953)
Displacement: 35 tons
Dimensions: 76¾ (*pp.*), 81¾ (*o.a.*)×12×2¾ feet
Guns: 1—20 mm. AA., 4 M.G.
Machinery: 2 G.M. diesels. B.H.P.: 260=13 kts.
Complement: 13

Notes
Built at Cartagena Naval Dockyard in 1952-55. Launch dates after the names above. Pennant Nos. LR 125, 128, 126 and 122, respectively. *Guardiamarina Sabalza* and *Teniente Asmussen* have been sold, it was officially stated in 1961.



FRITZ HAGALE 1956, *Colombian Navy, Official*

ALFONSO VARGAS (3 July 1952) **FRITZ HAGALE** (19 July 1952)
Displacement: 33 tons
Dimensions: 72 (*pp.*), 76 (*o.a.*)×12×2¾ feet
Guns: 1—20 mm. AA., 4 M.G.
Machinery: 2 G.M. diesels. B.H.P.: 280=13 kts.
Fuel: 3½ tons
Complement: 10

Notes
Built at Cartagena naval base. Designed for operations on rivers. Named after naval officers. Launch dates above. Pennant Nos. LR 123 and 124, respectively.

DILIGENTE **PALACE** **TRIUNFANTE** **VENGADORA**
INDEPENDIENTE **TORMENTOSA** **VALEROSA** **VOLADORA**

Notes
Launched at the Naval Base, Cartagena, in 1942-54. The boats very in detail. Pennant Nos. LR 138, 134, 130, 136, 133, 137, 139 and 135, respectively.

OILERS

ANTONIO DE AREVALO (ex-*Gronland*)
Measurement: 22,682 tons *gross*, 16,800 tons *deadweight*
Dimensions: 549⅛×68×30 (*max.*) feet
Machinery: 1 MAN diesel, type D 8Z70/120. B.H.P.: 6,650=15 kts.

Notes
Fleet oiler. Built by Deutsche Werft, Hamburg in 1952. Purchased from commercial sources in 1959. Pennant No. BT 64.

SANCHO JIMENO (ex-*Transmere*, ex-U.S.S. *Kiamichi*, AOG 73)
Displacement: 1,200 tons *light* (6,000 tons full load)
Dimensions: 325×48×19 feet
Machinery: 1 Enterprise engine. B.H.P.: 1,400=11 kts.
Complement: 35

Notes
Launched in 1943. Purchased in 1952. Pennant No. BT 63.

BLAS DE LEZO (ex-U.S.S. *Kalamazoo*, *AOG* 30)
Displacement: 700 tons (Cargo capacity: 1,228 tons)
Dimensions: 212½ (*w.l.*), 220½ (*o.a.*)×37×12¾ feet
Guns: 1—3 inch aft, on poop, 2—20 mm., 4 M.G.
Machinery: Diesel. B.H.P.: 800=9·5 kts.
Oil fuel: 60 tons
Complement: 67

Notes
Built by the East Coast S.Y., U.S.A. Launched on 30 Aug. 1944. Pennant No. BT 62 Photograph in the 1957-58 edition. The oiler *Cabimas*, formerly used as a receiving ship Cartagena, has been scrapped, it was officially stated in 1961.

SMALL TRANSPORTS

CIUDAD DE QUIBDO
Displacement: 633 tons
Dimensions: 165×23½ feet
Machinery: 1 Mai diesel. 1 shaft. B.H.P.: 390=11 kts.
Oil fuel: 32 tons
Complement: 12

Notes
Built by Gebr. Sander Delfzijl, in the Netherlands. Photograph in the 1957-58 edition. Pennant No. TM 43.

CIUDAD DE PEREIRA
Displacement: 633 tons
Dimensions: 163×33×10 feet
Machinery: General Motors diesels. B.H.P.: 600=10 kts.
Complement: 20

Notes
Light naval transport. Former U.S. Army freight ship FS-139. Launched in 1944. Photograph in the 1957-58 edition. Pennant No. TM 42.

BELL SALTER (ex-*Souris*, ex-*Leccarmaro II*). Pennant No. TM 41.
Displacement: 60 tons
Dimensions: 82×14×5½ feet
Machinery: 2 General Motors diesels, r.p.m. 1,500. Speed 8 kts.

LA PEDRERA (29 Apr. 1954) **ROCAFUERTE** (18 May 1954)
Displacement: 130 tons *standard* (150 tons *full load*)
Dimensions: 97×22×5½ feet
Machinery: 2 diesels. Speed 16 kts.

Notes
Built by Yarrow & Co. Ltd., Scotstoun, in 1954. Launch dates above. Used for transporting troops on the Amazon. Can carry 100 men. Also employed as river gunboats and patrol vessels.

ALBERTO GOMEZ (1954) **MARIO SERPA** (1953)
HERNANDO GUTIERREZ (1953)
Displacement: 70 tons
Dimensions: 82×18×2¾ feet
Machinery: 2 General Motors diesels. B.H.P.: 260=9 kts.
Oil fuel: 4 tons
Complement: 10 (berths for 56 troops)

Notes
River transports. Built at Cartagena in 1953-54. Named after Army officers. Photograph of *Alberto Gomez* in the 1954-55 to 1957-58 editions. Launch dates above. Nos. TF 53, 52, 51.

New Acquisitions
The hulls of the fast transports (modified destroyer escorts) *Brock* (APD 93), *Myers* (APD 105) and *Upham* (APD 99) have been acquired from the U.S. Navy and are being converted into power plants.

TUGS

PEDRO DE HEREDIA (ex-U.S.S. *Choctaw*, ATF 70)
Displacement: 1,235 tons *standard*, 1,764 tons *full load*
Dimensions: 195 (w.l.), 205 (o.a.)×38½×15½ (max) feet
Machinery: 4 sets of diesels with electric drive. B.H.P.: 3,000=16·5 kts.
Radius: 19.000 miles

Notes
Former United States ocean tug of the "Apache" class. Launched on 18 Oct. 1942. Pennant No. RM 72.

ANDAGOYA
Displacement: 100 tons
Machinery: Caterpillar diesel. B.H.P.: 400=10 kts.

Notes
Launched in 1928. Re-engined in 1955. Pennant No. RM 71. Photograph in 1957-58 edition.

ABADIA MENDEZ
Displacement: 39 tons
Dimensions: 52½×11×4 feet
Machinery: Caterpillar diesel. B.H.P.: 80=8 kts.

Note
Built in Germany in 1924. Harbour tug. There is also the harbour tug *La Columbiana*.

CÁNDIDO LEGUIZAMO **CÁPITAN JULIO PATINO**
CÁPITAN HERNANDO BOCANEGRA **CÁPITAN RIGOBERTO GIRALDO**
CÁPITAN ALVARO RUIZ **CÁPITAN VLADIMIR VALEK**
CÁPITAN CASTRO **TENIENTE LUIS BERNAL**
Displacement: 50 tons
Dimensions: 63×14×2½ feet
Machinery: 2 G.M. diesels. B.H.P.: 260=10 kts.

TENIENTE MIGUEL SILVA
Dimensions: 73½×17½ feet
Machinery: 2 diesels. B.H.P.: 260=9 kts.
Radius: 2,200 miles

Notes
River tug. Built by Union Industrial (Unial) of Barranquila. Pennant No. 89. There is also the river tug *Joves Fiallo*, Pennant No. RR 90. *Mayor Ernesto Rojas* has been sold, and the river tug *Coronel Mora Angueyra* has been scrapped, it was officially stated in 1961.

COMMONWEALTH

Commonwealth Naval Forces are :—

AUSTRALIA, CANADA, CEYLON, EAST AFRICA, FIJI, GHANA, HONG KONG, INDIA, MALAYA, MAURITIUS, NEW ZEALAND, NIGERIA, PAKISTAN, SIERRA LEONE, UNITED KINGDOM

CONGO

It is reported that the Government has formed a naval service which includes one patrol boat, a former yacht, 70 feet in length, steel-hulled, with a speed of 25 knots ; and five river patrol boats which are all former river freight boats between 90 feet and 120 feet in length fitted with guns.

COSTA RICA

The Coast Guard includes two patrol boats of wooden construction, both 90 feet in length. An armed tug, 80 feet in length, is also reported to be in the service of the Coast Guard, and there are other smaller patrol boats.

CUBA

Administration

Commander-in-Chief of the Navy:
Commander R. Castiñeiras.

Personnel

1962: 380 officers, 220 warrant officers, 5,000 men

New Acquisitions

It was reported in Apr. 1961 that 2 Soviet destroyers were being acquired, and the transfer of 4 more was being negotiated, but there is no confirmation that these transfers are being implemented. Instead, it was reported in Feb. 1962, 5 patrol vessels and 8 motor torpedo boats have been acquired from the U.S.S.R.

Naval Establishments

Naval Academy: At Mariel, for training officers.
Naval School: At Morro Castle, Havana, for training enlisted personnel.

FRIGATES (*Fragatas*)

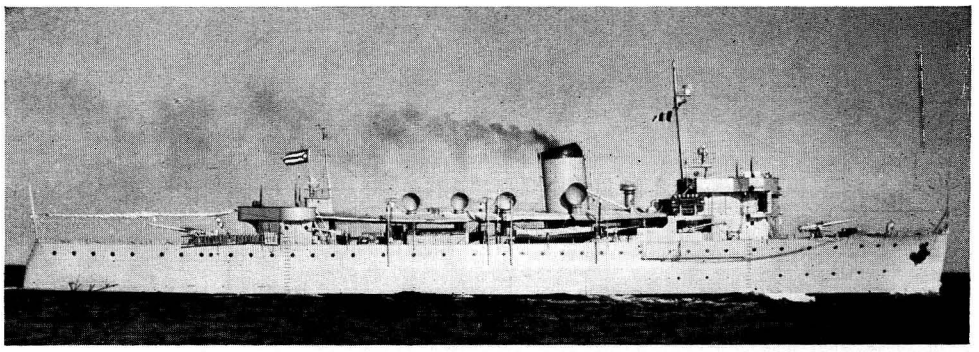
1 Rated as Cruiser (*Crucero*)

CUBA

Builders:	Cramp, Philadelphia
Launched:	10 Aug., 1911
Displacement:	2,055 tons
Dimensions:	260 (*pp.*) × 39 × 14 feet
Guns:	2—4 inch, 2—3 inch, 4—57 mm., 5—20 mm. AA., 2 D.C.T.
Machinery:	Triple expansion. I.H.P.: 6,000 = 14 kts. (officially revised figure)
Boilers:	2 Foster Wheeler 3-drum type.

Notes

Reconstructed in 1936-37. Converted from coal to oil burning. Completed further general reconstruction and modernisation in 1956, when hull and machinery were overhauled, new bridge rear constructed, tripod mast suppressed and replaced by a pole mast, radar equipment installed, funnel cap altered, height of masts reduced and four 57 mm. and five 20 mm. AA. guns mounted.



CUBA — 1957, *Official*

3 Ex-U.S. PF Type

ANTONIO MACEO (ex-*Peoria*, PF 67)
JOSE MARTI (ex-*Eugene*, PF 40)
MAXIMO GOMEZ (ex-*Grand Island*, PF 14)

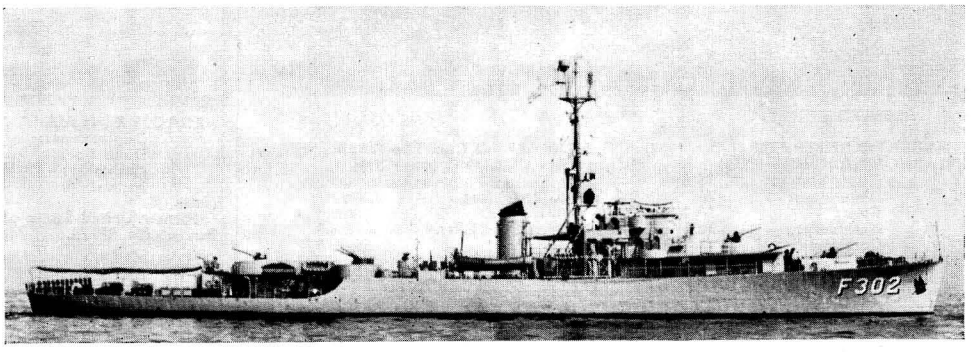
Displacement:	1,430 tons *standard* (2,415 tons *full load*)
Dimensions:	285½ (*w.l.*), 304 (*o.a.*) × 37½ × 13⅔ feet
Guns:	3—3 inch d.p., 4—40 mm. AA., 6—20 mm. AA. (except *Maximo Gómez*, 3—3 inch d.p., 4—40 mm. AA. (9—20 mm. AA.)
A/S weapons:	Hedgehog, D.C.T. and racks
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 18 kts.
Boilers:	2, of 3-drum type
Complement:	135 (*José Marti*)

General Notes

Acquired from U.S.N. in 1947. *José Marti* is fitted as flagship. All completed a refit in 1956 at Key West Naval Base, when new anti-submarine armament and equipment were installed.

Photograph Notes

Photographs of *José Marti* and *Maximo Gómez* appear in the 1954-55 to 1959-60 editions.



ANTONIO MACEO — 1960, *Cuban Navy, Official*

Pennant No.	*Name*	*Builders*	*Name*	*Laid down*	*Launched*	*Completed*
F 302	*Antonio Maceo*	Leathem D. Smith, S.B. Co. Wis.	*Antonia Maceo*	4 June 1943	2 Oct. 1943	15 Oct. 1944
F 301	*José Marti*	Consolidated Steel, San Pedro	*José Marti*	12 June 1943	6 July 1943	15 Jan. 1944
F 303	*Máximo Gómez*	Kaiser Cargo Inc., Richmond, Cal.	*Máximo Gómez*	27 Nov. 1943	19 Feb. 1944	27 May 1944

PATROL ESCORTS (*Buques de Patrulla y Escolta*)



CARIBE — *Cuban Navy, Official*

2 Ex-U.S. PCE Type Escort Patrol Vessels

	CARIBE (ex-*U.S.S. PCE* 872)	**SIBONEY** (ex-*U.S.S. PCE* 893)
Name:	*Caribe*	*Siboney*
Pennant No:	PE 201	PE 302
Builders:	Albina Eng. & Mach. Works, Portland, Oreg.	Willamette Iron & Steel Corp., Portland, Oreg.
Laid down	30 Jan. 1943	27 Oct. 1942
Launched:	24 Mar. 1943	8 May 1943
Completed:	29 Nov. 1943	25 July 1944

Displacement:	640 tons *standard* (903 tons *full load*)
Dimsenions:	180 (*w.l.*), 184½ (*o.a.*) × 33 × 9½ feet.
Guns:	1—3 inch d.p., 3—40 mm. AA., 4—20 mm. AA.
A/S weapons:	Hedgehog, D.C.T. and racks
Machinery:	12 cylinder Marine Diesel. 2 shafts. B.H.P.: 1,800 = 14 kts.
Complement:	99

Notes

Built in U.S.A. Former United States escort patrol vessels. Box deck-house amidships was removed from *Caribe* in 1953. Both completed a refit in 1956 at Key West Naval Base, when new anti-submarine armament and equipment were installed.

PATROL VESSELS

5 Ex-U.S.S.R. "Kronstadt" Type Submarine Chasers

Displacement:	300 tons *standard* (350 tons *full load*)
Dimensions:	167½ × 19½ × 9 feet
Guns:	1—3·9 inch, 2—37 mm. AA., 3—20 mm. AA.
A/S weapons:	Depth charge mortar
Mines:	6 on two racks at the stern
Machinery:	2 diesels. 2 shafts. B.H.P.: 22 kts.
Complement:	40

Notes

Former Soviet submarine chasers. Built in 1951. Acquired by the Cuban Navy for employment in the coastal patrol. Reported to have been towed from the U.S.S.R. to Cuba by Soviet merchant ships in Feb. 1962.

Recent Loss

The patrol vessel *Baire* (ex-*Tribesman*, ex-U.S.S. *PC* 790), former United States submarine chaser, sank at her dock at the Isle of Pines, Cuba, on 17 Apr. 1961, during the abortive revolution. She was reported to be either scuttled by her crew or sunk by rebel aircraft.

Disposal

The old sloop *Patria*, at Mariel as a permanent installation of the Naval Academy for training midshipmen, has been removed from the effective list.

New Construction

It was officially stated in 1960 that plans had been made to acquire twelve new gas turbine-diesel motor coastguard cutters, two new lighthouse tenders and 15 auxiliary patrol craft of the SV 1 and SV 7 types.

MOTOR TORPEDO BOATS

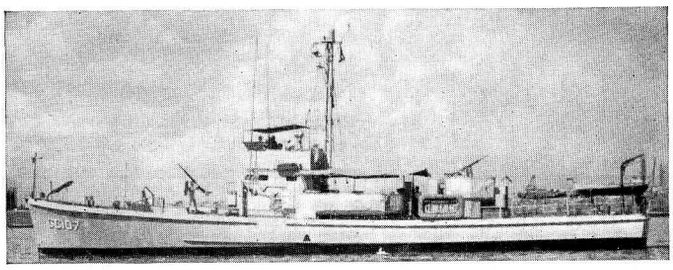
4 Ex-U.S.S.R. "PA" Type

Displacement:	60 tons
Dimensions:	82 × 20 × 6 feet
Guns:	4—25 mm. AA. (two twin mountings)
Tubes:	2—21 inch (two single mountings)
Machinery:	Speed = 40 kts. (*approx.*)

Notes

Former Soviet motor torpedo boats. Eight, including four of the "P 6" class are reported to have been shipped from the U.S.S.R. by Soviet freighters in Feb. 1962.

COAST GUARD CUTTERS (*Guardacostas*)

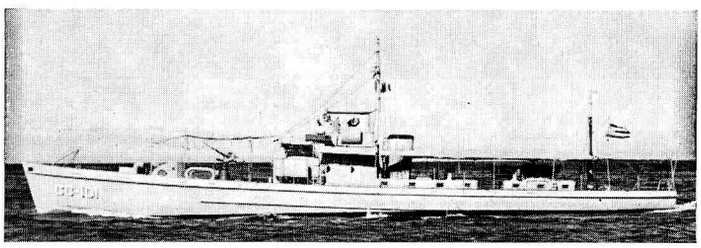


HABANA 1954, *Official*

HABANA *GC* 107 (ex-*SC* 1291) **ORIENTE** *GC* 104 (ex-*SC* 1000)
LAS VILLAS *GC* 106 (ex-*SC* 1290) **PINAR DEL RIO** *GC* 108 (ex-*SC* 1301)

Displacement:	95 tons
Dimensions:	107½ (*w.l.*), 111 (*o.a.*) × 17 × 6½ feet
Guns:	2—20 mm. AA.
Machinery:	G.M. Diesels. 2 shafts. B.H.P.: 1,000=15 kts.

Notes
Built in U.S.A. by Dingle Boat Works (*Oriente*), W. A. Robinson, Inc., Ipswich, Mass. (*Havana* and *Las Villas*), and Perkins & Vaughan, Inc., Wickford, R.I. (*Pinar del Rio*). *Camaguey* GC 105, has been removed from the effective list, it was officially stated in 1960.

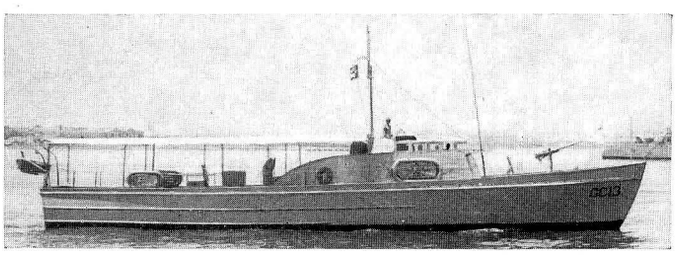


LEONCIO PRADO 1960, *Cuban Navy, Official*

LEONCIO PRADO *GC* 101

Displacement:	80 tons
Dimensions:	110 × [illegible] × 6½ feet
Guns:	1—20 mm. AA.
Machinery:	2 sets 8-cyle, 2-stroke Diesels. B.H.P.: 1,000=15 kts.
Oil:	2,232 gallons for a cruising radius of 16,000 miles

Notes
Built at Havana. Launched in 1946. Wooden hulled.



GC 13 1951, *Official*

GC 11 **GC 13** **GC 14**

Displacement:	45 tons
Dimensions:	83 × 16 × 4½ feet
Guns:	1—20 mm. AA. Depth charges
Machinery:	2 Sterling Viking petrol motors. H.P.: 1,200=18 kts.
Complement:	12

Notes
Former *CS* of same numbers. Built in U.S.A. Launched in 1942-43. Ex-United States Coast Guard Cutters 83351, 83385, 83395, respectively. Wood. Received from U.S. Navy in March 1943. Rated as *Guardacostas*, 83 ft. GC 12 and GC 31 have been removed from the effective list.

GC 32 **GC 33** **GC 34**

Displacement:	45 tons
Dimensions:	83 × 16 × 4½ feet
Guns:	1—20 mm. AA.
Machinery:	2 Superior Diesel motors. B.H.P.: 460=12 kts.
Complement:	12

Notes
Built in U.S.A. Launched in 1942-43. Ex-United States Coast Guard Cutters 56191, 56190, 56192. Wood. Photograph of GC 32 in the 1955-56 to 1959-60 editions. GC 31 has been removed from the effective list.

AUXILIARY COAST GUARD CUTTERS

DONATIVO *GC* 102 (ex-*Capitan Fernandez Quevedo*)

Displacement:	130 tons
Dimensions:	101 × 18 × 7 feet
Machinery:	2 sets Diesels. B.H.P. 360=12 kts.

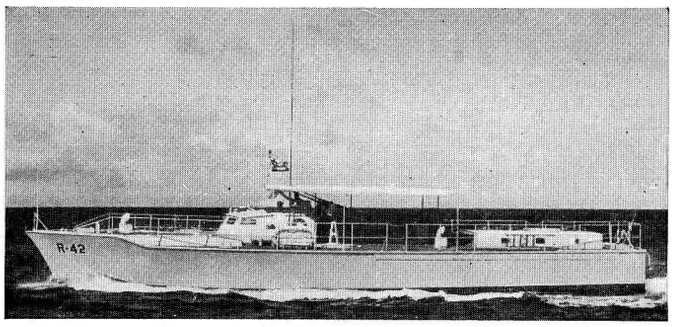
Notes
Built at Havana. Launched in 1932. Photograph in the 1947-48 to 1959-60 editions.

MATANZAS *GC* 103

Displacement:	80 tons
Dimensions:	100 × 18 × 6 feet
Guns:	1—1 pdr.
Machinery:	2 Fairbanks Morse Diesels. B.H.P.: 180=12 kts.

Notes
Wooden hulled. Built at Havana. Launched in 1912. Photograph in the 1947-48 to 1959-60 editions. Both of the above ships are rated as *Guardacostas Auxiliaries*.

MOTOR LAUNCHES (EX-M.T.B.s)



R 42 1955 *Official*

R 41 (ex-*PT* 715) **R 42** (ex-*PT* 716)

Displacement:	35 tons
Dimensions:	71 × 19½ × 5 feet
Guns:	2 M.G.
Machinery:	3 Packard petrol engines. 3 shafts. B.H.P.: 3,600=40 kts. (*max.*)

Notes
Former American motor torpedo boats of the PT type. Built in the U.S.A. by Annapolis Yacht Yard, Inc., Annapolis, Md. Launched on 9 July 1945 (*R* 41) and 17 July 1945 (*R* 42). Sunk during a hurricane, 5 Oct. 1948, but were subsequently salvaged and are in service as sea-air rescue craft. All rated as *Buques-Auxiliares*, *Ex-Torpederos*.
Recent Loss
Sister boat *R* 43 sank on 6 May 1961 after hitting a submerged object off Western Cuba, it is reported.

AUXILIARY PATROL CRAFT

SV 7 **SV 8** **SV 9** **SV 10** **SV 12** **SV 14**

Dimensions:	Length 40 feet
Guns:	1—50 cal. M.G.
Machinery:	2 G.M. diesels. Speed 25 kts.

Notes
Later boats of the SV type assigned to naval stations for coastal vigilance, to deal with contraband, and for auxiliary services, rescue and navigation. Equipped with radar.

SV 1 **SV 2** **SV 3** **SV 4** **SV 5** **SV 6**

Displacement:	6·15 tons
Dimensions:	32 × 10 × 2¾ feet
Machinery:	2 Chrysler Crown. B.H.P.: 230=18 kts.

Notes
Auxiliary patrol boats for port vigilance, launched in 1953. Photograph of *SV* 6 in 1957-58 edition.
Seven YP type patrol craft were delivered to Cuba, having been built at Annapolis, Maryland, U.S.A. during 1956. Three more were delivered later.

LIGHTHOUSE TENDERS

ENRIQUE COLLAZO (ex-*Joaquin Godoy*)

Displacement:	815 tons
Dimensions:	211 × 34 × 9 feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 672=8 kts.

Notes
Built at Paisley, Scotland. Launched in 1906. Acquired in 1950 from Cuban mercantile marine. Rated as *Buque de Servicio de Faros*. Photograph in the 1953-54 to 1957-58 editions.

BERTHA

Displacement:	98 tons
Dimensions:	104 × 19 × 11 feet
Machinery:	2 Gray Marine Diesels. B.H.P.: 450=10 kts.

Notes
Launched in 1944. Pennant No. SF 10. Photograph in the 1957-58 edition.
Recent Disposal
The very old surveying vessel *Yara* (ex-*Ruperto Rodriguez*) has been removed from the effective list.

AUXILIARY VESSELS (*Buques-Auxiliares*)

GRANMA

Notes
Yacht which landed in Cuba on 2 Dec. 1956 with Dr. Fidel Castro and the men who began the liberation war. Historical vessel incorporated into the Navy as an auxiliary vessel with the Pennant No. A 11.
The former Presidential Yacht 10 *de Marzo* (ex-*Wakitty*) has been removed from the effective list.

A1 **A2** **A3**

Displacement:	60 tons
Dimensions:	74 × 15 × 5 feet
Guns:	1 M.G.
Machinery:	2 diesel engines

Notes
Formerly yachts. Photograph of A3 appears in the 1954-55 to 1957-58 editions.

RESCUE AND SALVAGE VESSEL
(*Buque de Rescate y Salvamento*)

10 DE OCTUBRE (ex-*ATR* 4)

Displacement:	852 tons *standard* (1,315 tons *full load*)
Dimensions:	155 (*w.l.*), 165½ (*o.a.*) × 33½ × 16 feet
Guns:	Removed
Machinery:	Triple expansion. I.H.P.: 1,600=12 kts.
Boilers:	2 Babcock & Wilcox D-type. Oil burning

Notes
Former American ocean rescue tugs. Built in U.S.A. Launched in 1943. Largely of wooden construction. Pennant No. RS 210. Rated as *Buque de Rescate y Salvamento*. Sister ship 20 *de Mayo* (photograph in the 1954-55 to 1959-60 editions) has been removed from the effective list.

DENMARK

Administration

Commander-in-Chief:
Vice-Admiral S. E. Pontoppidan, K.C.V.O., O.B.E., R.D.N.

Naval Attache, London: Lt. Colonel E. B. Meincke, R.D.A.F.

Navy Estimates

1958-59: Kr.161,500,000 1960-61: Kr.172,100,000
1959-60: Kr.170,100,000 1961-62: Kr.177,100,000
1962-63:Kr. 210,100,000

Personnel

February 1962: 6,300 officers and men

Mercantile Marine

Lloyd's Register of Shipping:
827 vessels of 2,306,746 tons *gross*

FRIGATES

2 New Construction DE Type

Displacement: *circa* 1,800 tons (official figure)
Dimensions: 364 × 36 × 14 feet
Guns: 4—5·1 inch, 2—40 mm. AA.
Tubes: 3—21 inch
Machinery: S.H.P.: 18,000=27 kts.

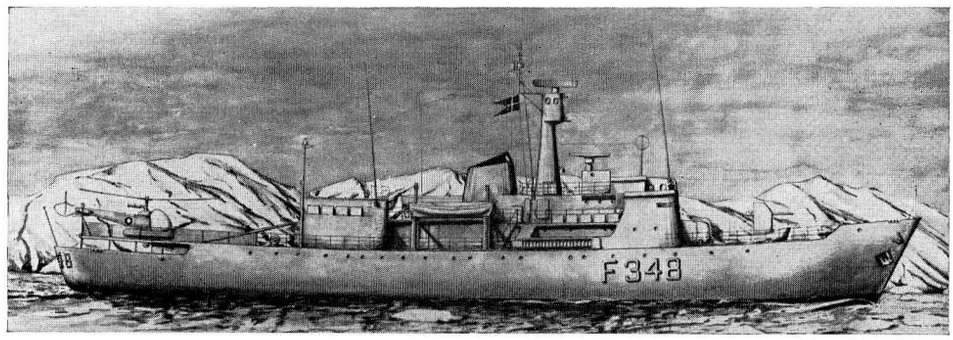
Notes
Fast frigates or destroyer escorts to be laid down in 1963.

4 New Construction FF Type "Hvidbjornen" Class

FYLLA **INGOLF**
HVIDBJØRNEN **VÆDDEREN**

Displacement: 1,650 tons
Dimensions: 239½ × 37¾ × 15¾ feet
Guns: 1—3 inch dual purpose
Aircraft: 1 Alouette III helicopter
Machinery: Diesels. B.H.P.: 6,400=18 kts.

Notes
It is officially stated that these four frigate type vessels are being built. Laid down in 1960-61. For fishery protection and surveying duties in the North Sea, Faroe Islands, and Greenland waters. They will be equipped with a helicopter platform aft. Built by Aarhus Flydedok og maskinkompagni, Aalborg vaerft (two), and Svendborg vaerft.



F 348 (New Construction) 1961, *Royal Danish Navy, Official*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*
F 351	*Fylla*	Svendborg Vaerft		
F 348	*Hvidbjornen*	Aarhus Flydedok	4 June 1961	23 Nov. 1961
F 350	*Ingolf*	Aalborg Vaerft		
F 349	*Vaedderen*	Aalborg Vaerft	30 Oct. 1961	

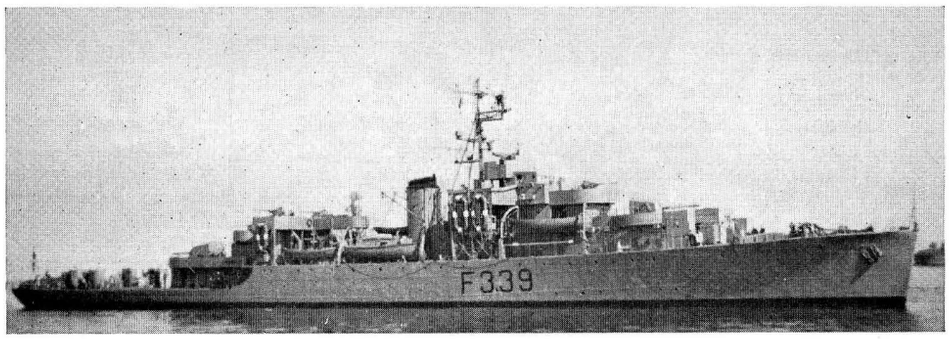
1 Ex-British "River" Class Frigate

NIELS EBBESEN (ex-H.M.S. *Annan*)

Pennant No. F 339
Builders: Hall, Russell & Co. Ltd.
Laid down: 10 June 1943
Launched: 29 Dec. 1943
Completed: 29 June 1944

Displacement: 1,536 tons *standard* (2,134 tons *full load*)
Dimensions: 301½ × 36½ × 12 feet
Guns: 1—5·1 inch, 2—40 mm. AA.
Machinery: Triple expansion. 2 shafts. I.H.P.: 5,500=16 kts.
Boilers: 2, of 3-drum type
Complement: 140

Notes
Purchased from Great Britain. Formerly employed as a sea-going training ship. Now employed as a fishery protection ship. Sister ship *Holger Danske* was scrapped in 1959.



NIELS EBBESEN *Added* 1960

3 Ex-British "Hunt II" Class Escorts

ESBERN SNARE (ex-H.M.S. *Blackmore*)
ROLF KRAKE (ex-H.M.S. *Calpe*)
VALDEMAR SEJR (ex-H.M.S. *Exmoor*)

Displacement: 1,260 tons *standard* (1,560 tons *full load*)
Dimensions: 280 (*o.a.*) × 31½ × 14 (*max.*) feet
Guns: 6—4 inch AA., 4—40 mm. AA.
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 19,000=23 kts.
Boilers: 2 of 3-drum type
Complement: 150

Notes
Lent by Great Britain in 1953 for 4 years and subsequently extended for a further 4 years. Reconstructed in 1953-54.

Name	*Laid down*	*Launched*	*Completed*
Esbern Snare	10 Feb. 1941	2 Dec. 1941	14 Apr. 1942
Rolf Krake	12 June 1940	28 Apr. 1941	11 Dec. 1941
Valdemar Sejr	7 June 1940	12 Mar. 1941	18 Oct. 1941

Name	*Pennant No.*	*Builders*
Esbern Snare	F 341	Alex. Stephen & Sons, Ltd., Glasgow
Rolf Krake	F 342	Swan, Hunter & Wigham Richardson
Valdemar Sejr	F 343	Swan, Hunter & Wigham Richardson



ROLF KRAKE *Added* 1958, *Wright & Logan*

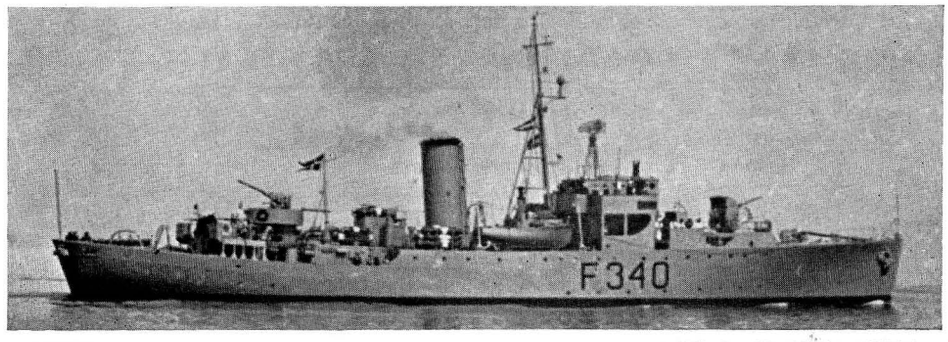
1 Ex-British "Flower" Class Corvette

THETIS (ex-H.M.S. *Geranium*)

Builders: Wm. Simons & Co. Ltd.
Laid down: 21 Sep. 1939
Launched: 23 Apr. 1940
Completed: 24 June 1940

Displacement: 1,000 tons *standard* (1,148 tons *full load*)
Dimensions: 190 (*pp.*), 205 (*o.a.*) × 33 × 14½ feet
Guns: 1—3 inch
Machinery: Triple expansion. I.H.P.: 2,750=10 kts.
Boilers: 2 S.E.
Complement: 85

Notes
Purchased from Great Britain. Operates in North Sea and off Faroes. Rebuilt and modernised in 1951-52 when new boilers were installed and the funnel was stepped a little more aft. The 4 inch AA. gun was replaced by a 3 inch gun in 1959, and the 40 mm. AA. gun and two 20 mm. AA. **Madsen guns** were removed. Pennant No. F 340.



THETIS 1961, *Royal Danish Navy, Official*

MINELAYERS

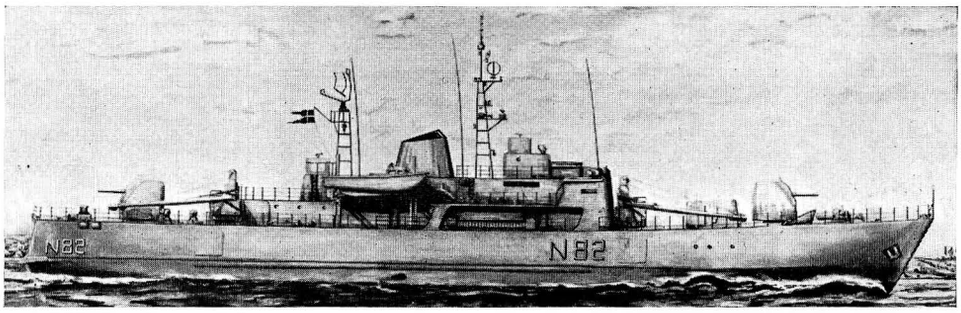
4 New Construction MMC Type

N 80 N 81 N 82 N 83

Displacement:	1,800 tons (officially revised figure)
Dimensions:	246 × 41 × 10 feet
Guns:	4—3 inch dual purpose
Mines:	400
Machinery:	2 shafts. H.P.: 4,000=16.5 kts.
Complement:	180

Notes

It is officially stated that four new minelayers are being built, two in Frederikshavn Dockyard and two in Nakskov Dockyard. Three will be laid down in 1962 and one in 1963.



N 82 (New Construction) 1961, *Royal Danish Navy, Official*

CORVETTES

4 "Triton" Class

BELLONA DIANA FLORA TRITON

Displacement:	760 tons *standard* (873 tons *full load*) officially revised figures
Dimensions:	249½ (*o.a.*) × 31 5 × 9 feet
Guns:	2—3 inch, 1—40 mm. AA.
Machinery:	Fiat diesels. 2 shafts. B.H.P.: 4,400=20 kts.
Complement:	110

Name	*Builders*
Bellona	Naval Meccanicia, Castellammare
Diana	Cantiere del Tirreno, Riva Trigoso
Flora	Cantiere del Tirreno, Riva Trigoso
Triton	Cantiere Navali di Taranto

Pennant No.	*Name*	*Launched*	*Transferred*
F 344	*Bellona*	9 Jan. 1955	31 Jan. 1957
F 345	*Diana*	19 Dec. 1954	30 July 1955
F 346	*Flora*	25 June 1955	28 Aug. 1956
F 347	*Triton*	12 Sep. 1954	10 Aug. 1955



TRITON 1956, *courtesy Dott. Ing. Luigi Accorsi*

Notes

All four vessels were built under United States MDAP in Italy for the Danish Navy. Officially classified as corvettes in 1954.

SUBMARINES

4 "Delfinen" Class

DELFINEN SPÆKHUGGEREN TUMLEREN

Displacement:	550 tons *standard*, 595 tons *surface*
Dimensions:	177 × 15½ × 15 feet
Tubes:	4—21 inch
Machinery:	2 Burmeister & Wain diesels. B.H.P. 1,200=13 knots *surface*. Electric motors=12 kts. *submerged*
Radius:	4,000 miles at 8½ kts.

Notes

These new submarines were built in the Royal Dockyard Copenhagen. *Delfinen* (Dolphin) was the first submarine built in Denmark for 17 years. Engined with diesels of a new type. Equipped with Schnorkel. A fourth ship of the class, as yet unnamed, is scheduled to be launched in 1962.

Pennant No.	*Name*	*Laid down*	*Launched*
S 326	*Delfinen*	1 July 1954	4 May 1956
S 327	*Spaekhuggeren*	1 Dec. 1954	20 Feb. 1957
S 328	*Tumleren*	22 May 1956	June 1958
S 329		3 Jan. 1961	



DELFINEN 1960, *Royal Danish Navy, Official*

Recent Disposals

The submarines *Saelen* (ex-U3, ex-*Morse*, ex-H.M.S. *Vortex*) and *Springeren* (ex-U1, ex-*Dzik*, ex-P52) were handed back to the Royal Navy on 16 Jan. 1958 and 19 Nov. 1959, respectively. The third ship of the class, the *Storen* (ex-H.M.S. *Vulpine*) was returned to Great Britain in 1958.

PATROL VESSELS (*ex-Coastal Destroyers*)

2 "Huitfeldt" Class

HUITFELDT (ex-*Nymfen*) **WILLEMOES** (ex-*Najaden*)

Name:	*Huitfeldt*	*Willemoes*
Pennant Nos.:	*P 520*	*P 521*
Builders:	Royal Dockyard, Copenhagen	
Laid down:	3 July 1942	3 July 1942
Launched:	22 June 1943	17 Mar. 1943
Completed:	31 July 1947	30 June 1947

Displacement:	782 tons *standard* (890 tons *full load*)
Dimensions:	283 (*o.a.*), 279 (*pp.*) × 27½ × 11½ feet
Guns:	2—4.1 inch, 3—40 mm. AA. (see *Gunnery Notes*)
Tubes:	6—21 inch, 2 D.C.T.
Mines:	60
Machinery:	Geared turbines. 2 shafts. S.H.P.: 21,000=35 kts.
Complement:	92



HUITFELDT 1961, *Royal Danish Navy, Official*

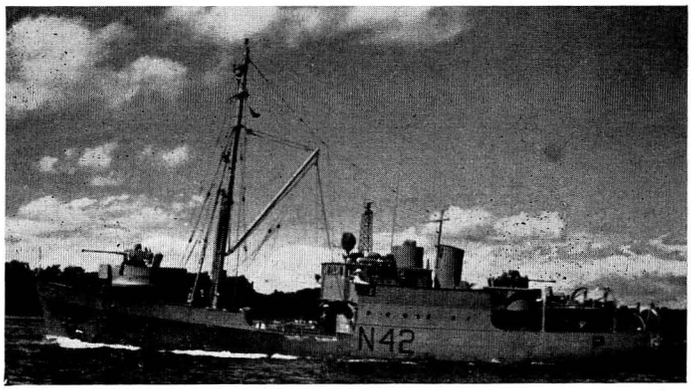
Notes

Originally known as Torpedo Boats. Reclassified as Coastal Destroyers in 1951 and again reclassified as Patrol Vessels, with P pennant numbers, in 1958. Named after Danish naval officers.

Gunnery Notes

The six 20 mm. Madsen anti-aircraft guns were removed, it was officially stated, in 1961.

COASTAL MINELAYERS (*Minelaeggere*)



LANGELAND 1959, *courtesy Captain Aldo Fraccaroli*

LANGELAND

Displacement:	309·5 tons *standard*, 323 tons *full load*
Dimensions:	133½ (*o.a.*), 128¼ (*pp.*)×23⅔×7¼ feet
Guns:	2—40 mm., 2—20 mm. Madsen
Machinery:	Diesel. 2 shafts. B.H.P.: 385=11·6 kts.
Complement:	37

Notes
Built at the Royal Dockyard, Copenhagen. Launched on 17 May 1950. Pennant No. N 42.



VINDHUNDEN 1961, *Royal Danish Navy, Official*

2 "Beskytteren" Class

BESKYTTEREN (ex-U.S. *LSM* 390) **VINDHUNDEN** (ex-U.S. *LSM* 392)

Displacement:	743 tons *light*, 1,095 tons *full load*
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*)×34½×8½ feet
Guns:	8—40 mm. (twin), 6—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 2,800=12 kts.
Complement:	60

Notes
Former United States LSM's reconstructed as minelayers in U.S.A. *Beskytteren* (Danish for "Protector") was launched on 12 Dec. 1944 by Charleston Navy Yard and transferred to the Royal Danish Navy at New York on 8 June 1954. Pennant Nos. N 60 and N 61, respectively.



LAALAND 1957, *Royal Danish Navy, Official*

2 "Laaland" Class

LAALAND **LOUGEN**

Displacement:	240 tons
Dimensions:	105½×21¼×6½ feet
Guns:	2—20 mm. AA.
Machinery:	B. & W. diesel. 2 shafts. B.H.P.: 350=10 kts.
Complement:	31

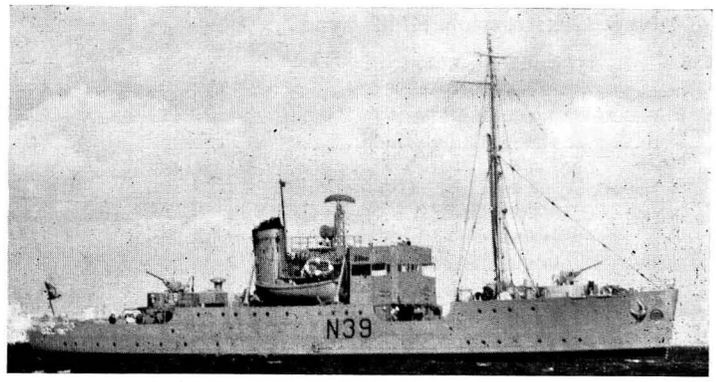
Notes
Built at the Royal Dockyard, Copenhagen. Both launched in 1941 and completed in 1946. Pennant Nos. N 40 and N 41 respectively.

LINDORMEN

Displacement:	604 tons *standard* (645 tons *full load*)
Dimensions:	175¼ (*o.a.*), 167¼ (*pp.*)×29×8 feet
Guns:	2—40 mm. AA., 2 M.G.
Mines:	150
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,200=14 kts.
Boilers:	2 Thornycroft 3-drum type
Complement:	66

Notes
Built at the Royal Dockyard, Copenhagen. Launched on 30 Mar. 1940. Scuttled in Copenhagen Harbour on 29 Aug. 1943, but was salved and refitted with a new rig. The 3-inch gun formerly mounted, and one 40 mm. gun, were removed in 1959. Pennant No. N 39

Coastal Minelayers—*continued*



LINDORMEN 1961, *Royal Danish Navy, Official*

COASTAL MINESWEEPERS



AARØSUND 1961, *Royal Danish Navy, Official*

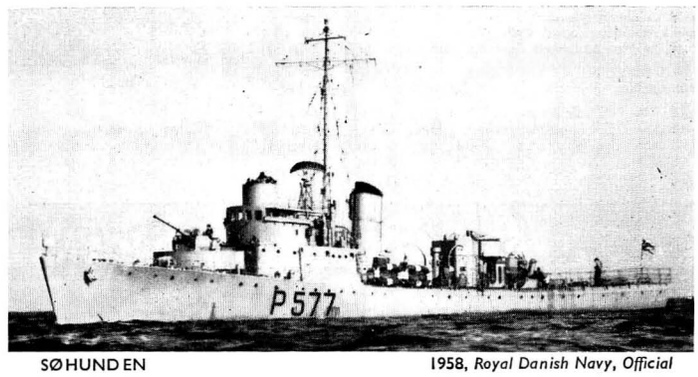
8 "Sund" Class

AARØSUND M 571 (ex-*AMS* 127) **GULDBORGSUND** M 575 (ex-*MSC* 257)
ALSSUND M 572 (ex-*AMS* 128) **OMØSUND** M 576 (ex-*MSC* 221)
EGERNSUND M 573 (ex-*AMS* 129) **ULVSUND** M577 (ex-*MSC* 263)
GRØNSUND M 574 (ex-*MSC* 256) **VILSUND** M578 (ex-*MSC* 264)

Displacement:	350 tons *standard* (376 tons *full load*) officially revised figure
Dimensions:	138 (*pp.*), 144 (*o.a.*)×27×8½ feet
Guns:	2—20 mm.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,200=13 kts.
Complement:	35

Notes
MSC (ex-AMS) 60 class NATO coastal minesweepers AMS 127-130 and four more all built in U.S.A. Completed in 1954-56. *Aarösund* was transferred on 24 Jan. 1955, *Alssund* on 5 Apr. 1955, *Egernsund* on 3 Aug. 1955, *Grönsund* on 21 Sep. 1956, *Guldborgsund* on 11 Nov. 1956, *Omösund* on 20 June 1956, *Ulvsund* on 20 Sep. 1956 and *Vilsund* on 15 Nov. 1956.

PATROL VESSELS (*ex-Minesweepers*)



SØHUNDEN 1958, *Royal Danish Navy, Official*

2 "Sohesten" Class

SØHUNDEN **SØRIDDEREN**

Displacement:	274 tons *standard* (315 tons *full load*)
Dimensions:	169 (*pp.*), 176½ (*o.a.*)×20¾×6½ feet
Guns:	2—40 mm. AA., 4—20 mm. AA., Bofors. 2 D.C.T.
Machinery:	Geared turbine. 1 shaft. S.H.P.: 2,200=18 kts.
Boiler:	1 Thornycroft 3-drum type
Oil fuel:	30 tons
Complement:	48

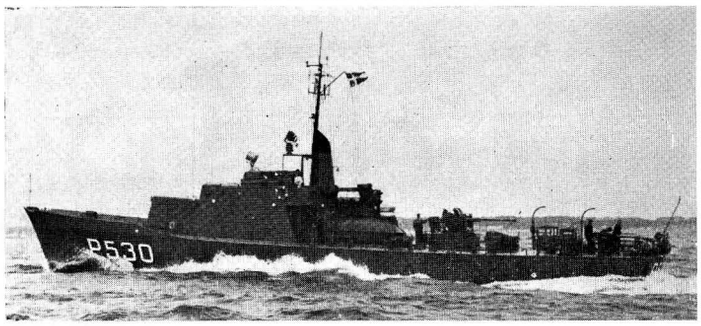
Notes
Both built at Royal Dockyard, Copenhagen. Former minesweepers equipped for minelaying. Reconstructed with radar and firing director, reclassified as patrol vessels and given new P numbers instead of M pennant numbers in 1958. *Söridderen* means Sea Knight; *Söhunden* means Seadog.

Pennant No.	*Name*	*Launched*
P577 (ex-*M* 542)	*Söhunden*	16 May 1942
P579 (ex-*M* 544)	*Söridderen*	11 Apr. 1942

Recent Disposals
The two sister ships of the "Söhesten" class, the *Söhesten* (Seahorse) and *Sölöven* (Sealion) were scrapped in 1959.

All the six patrol vessels (ex-torpedo boats) of the "Krieger" class, the *Bille*, *Buhl*, *Hammer Holm*, *Krabbe* and *Krieger*, were scrapped in 1959.

SEAWARD DEFENCE CRAFT



DAPHNE — 1962, *Royal Danish Navy, Official*

9 New Construction SDC Type. "Daphne" Class

DAPHNE (10 Nov. 1960) P 530 **HAVFRUEN** (4 Oct. 1961) P 533 **NEPTUN** P536
DRYADEN (1 Mar. 1961) P 531 **NAJADEN** P 534 **RAN** P 537
HAVMANDEN (16 May 1961) P 532 **NYMFEN** P 535 **ROTA** P 538

Displacement:	150 tons
Dimensions:	121½×20×6½ feet
Guns:	1—40 mm. AA.
A/S weapons:	Depth charges
Machinery:	Diesels. 2 shafts. B.H.P.: 2,600=20 kts. (plus 1 cruising engine. B.H.P.: 100)

Notes

All built at the Royal Dockyard, Copenhagen. Launch dates above. Laid down: *Daphne* 1 Apr. 1960, *Dryaden* 1 July 1960, *Havmanden* 15 Nov. 1960, *Havfruen* 15 Mar. 1961, *Najaden* 20 Sep. 1961. *Daphne* was completed on 19 Dec. 1961.

MOTOR TORPEDO BOATS

2 New Construction Gas Turbine FPB Type

P 510 P 511

Notes

Under construction by Vosper Ltd., Portsmouth. Powered by three Bristol Siddeley Proteus gas turbines developing a speed of over 50 kts. Armed with 40 mm. power operated Bofors guns and torpedo tubes. Design is a combination of "Brave" and "Ferocity" types.

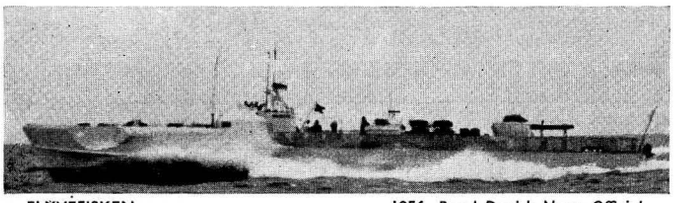
4 New Construction Diesel FPB Type. "Falken" Class

FALKEN (19 Dec. 1961) P 506 **GRIBBEN** P 508
GLENTEN P 507 **HÖGEN** P 509

Displacement:	115 tons
Dimensions:	118×17¾×6 feet
Guns:	1—40 mm. AA., 1—20 mm. AA.
Tubes:	4—21 inch (side)
Machinery:	3 diesels. 3 shafts. B.H.P.: 9,000=40 kts.

Notes

Ordered under the United States offshore procurement programme under MAP (U.S. hull numbers PGM 47, 48, 49 and 50). All built at the Royal Dockyard, Copenhagen. Laid down: *Falken* 1 Nov. 1960, *Glenten* 3 Jan. 1961, *Gribben* 15 May 1961, *Högen* 1 Sep. 1961. Launch dates above. All named after birds.



FLYVEFISKEN — 1956, *Royal Danish Navy, Official*

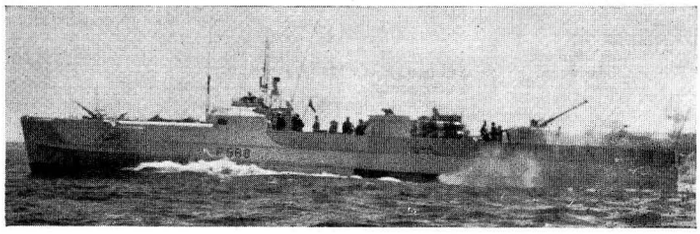
6 "Flyvefisken" Class

FLYVEFISKEN P 500 **HAVKATTEN** P 502 **MAKRELEN** P 504
HAJEN P 501 **LAXEN** P 503 **SVÆRDFISKEN** P 505

Displacement:	110 tons
Dimensions:	120×18×6 feet
Guns:	1—40 mm. AA., 1—20 mm. AA.
Tubes:	2—21 inch
Machinery:	3 diesels. 3 shafts. B.H.P.: 7,500=40 kts.
Complement:	23

Notes

Three built in Royal Dockyard, Copenhagen, three in Frederikssund Vaerft. All units are named after fishes. Ordered in 1952, laid down in 1953 and launched in 1954-55.



VIBEN — 1960, *Royal Danish Navy, Official*

6 "Viben" Class

HEJREN P 563 (ex-*Tross*, ex-*S* 117) **STORMFUGLEN** P 565 (ex-*Lyn*, ex-*S* 64)
JAGTFALKEN (P 557 (ex-*T* 57, ex-*S* 305) **TRANEN** P 567 (ex-*Storm*, ex-*S* 85)
RAVNEN P 560 (ex-*T* 60, ex-*S* 97) **VIBEN** P 568 (ex-*S* 68)

Displacement:	99 tons *standard* (104 tons *full load*)
Dimensions:	115 (*pp.*), 121⅝ (*o.a.*)×17¾×6 feet
Guns:	1—40 mm., 1—20 mm. AA.
Tubes:	2—21 inch
Machinery:	3 Mercedes-Benz diesels. 3 shafts. B.H.P.: 6,000=36 kts.
Complement:	21 to 23

Notes

Ex-German Schnell-boote. All launched in 1941-44. *Hejren* was built by Schlichting, Travemunde, and the others were all built by Lürrsen, Vegesack. *Hejren*, *Stormfuglen* and *Tranen* were transferred from the Royal Norwegian Navy in 1951. Now named after birds. Of their sister ships *Haerfuglen* P 554 (ex-T 54, ex S 133), *Isfuglen* P 556 (ex-T 56, ex-S 127) and *Musvaagen* P 558 (ex-T 58, ex-S 79) were scrapped in Oct. 1955. *Hogen* P 555 (ex-T 55, ex-S 266) was sunk in collision on 4 Sep. 1957. *Havornen* P 553 (ex-T 53, ex-S 216) and *Raagen* P 559 (ex-T 59, ex-S 197) were scrapped in 1958 and *Gribben* P 551 (ex-T 51, ex-S 316) in 1960.

Jagtfalken is of slightly different type. Of her sister ships, *Falken* P 562 (ex-*Blink*, ex-S 302) and *Lommen* P 564 (ex-*Kjekk*, ex-S 195) transferred from the Royal Norwegian Navy in 1951, were scrapped in 1961. *Taarnfalken* P 566 (ex-*Brann*, ex-S 303) was scrapped in 1958 and *Glenten* P 551 (ex-T 51, ex-S 316) and *Skaden* P 561 (ex-T 61, ex-S 207) in 1960-61.

INSHORE MINESWEEPERS



ASVIG — 1962, *Royal Danish Navy, Official*

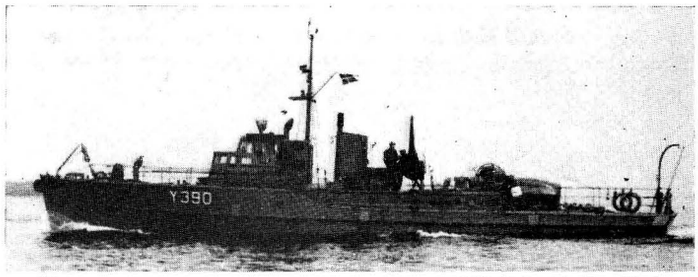
4 New Construction MSI Type. "Vig" Class

ASVIG (11 May 1960) M 579 **SAELVIG** (14 July 1961) M 582
MOSVIG (14 Sep. 1960)M 580 **SANDVIG** (1 Mar. 1961) M 581

Displacement:	180 tons (official figure)
Dimensions:	113½×22½×6½ feet
Guns:	2—20 mm. AA.
Machinery:	2 diesels. 2 shafts. Speed=13 kts.
Complement:	23

Notes

All built at the Royal Dockyard, Copenhagen. They are similar to the British "Ham" class. Laid down: *Asvig* 22 Apr. 1959, *Mosvig* 22 apr. 1959, *Sandvig* 11 Mar. 1960, *Saelvig* 14 Sep. 1960. Launch dates above. Completed: *Asvig* 6 Sep. 1961, *Mosvig* 25 Oct. 1961.



LYø — 1962, *Stefan Terzibaschitsch*

6 "Asko" Class

ASKØ Y 386 (ex-M 560, ex-*MS* 2) **HJORTØ** Y 389 (ex-*M* 564, ex-*MS* 7)
BAAGØ Y 387 (ex-*M* 561, ex-*MS* 3) **LYØ** Y 390 (ex-*M* 565, ex-*MS* 8)
ENØ Y 388 (ex-M 562, ex-*MS* 5) **MANØ** Y 391 (ex-*M* 566, ex-*MS* 9)

Displacement:	74 tons
Dimensions:	78¾×21×5 feet
Guns:	1—20 mm.
Machinery:	Diesel. 1 shaft. B.H.P.: 350=11 kts.
Complement:	11

Notes

Of wooden construction. All launched in 1941. These remaining six boats are used for training purposes only.

Recent Disposals

MS 4 was scuttled in Aug. 1943. *Sorte*, *Sara* and *Stryno* were condemned on 30 June 1956. Sister ship *Faeno* M 563 (ex-*MS* 6) was transferred to the Naval Homeguard in Feb. 1960.

3 "Alholm" Class

ALHOLM Y 369 (ex-*MSK* 1) **BIRKHOLM** Y 370 (ex-*MSK* 2)
ERTHOLM Y 371 (ex-*MSK* 3)

Displacement:	70 tons
Dimensions:	69×17×9 feet
Guns:	1—20 mm. AA.
Machinery:	Diesel. B.H.P.: 120=10 kts.

Notes

Built by Frederikssund Vaerft. All launched in 1945. Also used as patrol vessels.

3 "Fyrholm" Class

FYRHOLM Y 372 (ex-*MSK* 4) **GRÆSHOLM** Y 373 (ex-*MSK* 5)
LINDHOLM Y 374 (ex-*MSK* 6)

Displacement:	68 tons
Dimensions:	65⅜×16¾×7½ feet
Machinery:	Diesel. B.H.P.: 120=9 kts.

Notes

Built by Sydhavns Vaerft. All launched in 1944-45. Minesweeping boats for training.

2 "Klordyb" Class

KLØRDYB M 569 (ex-*ML* 2) **VEJDYB** M 570 (ex-*ML* 3)

Displacement:	21 tons
Dimensions:	50×13¾×3¼ feet
Machinery:	Speed=9 kts.

Notes

All launched in 1944. Officially classed as shallow water minesweepers. *Graadyb* was condemned on 4 Feb. 1956.

PATROL BOATS

1 "Næs" Class

TRELLENÆS P 546 (ex-*M* 555, ex-*MR* 236)

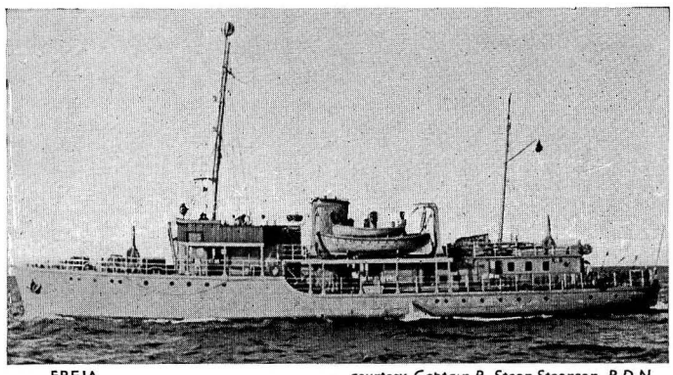
Displacement:	137 tons (officially revised figure)
Dimensions:	129¼×18½×5½ feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Machinery:	Diesel. B.H.P.: 2,800=21 kts. (official revised figure)
Fuel:	14 tons
Complement:	21

Notes

Ex-German Craft with wooden hull. Built by Burmester, Burg. Launched in 1943-44. Former inshore minesweepers reclassified as patrol boats and given P instead of M pennant numbers in 1958. Of this type MR 229 and MR 214 were scrapped in 1951, *Vornaes* P 547 (ex-*M* 556, ex-*MR* 242) was scrapped in 1960, and *Stignaes* P 545 (ex-*M* 554, ex- *MR*230) in 1961.

Of the smaller type M R 152, 173, were scrapped in 1951. *Rinkenaes*, M 553 (ex-MR 174), was scrapped in June 1955. *Bognaes*, M 543 (ex-MR 155) and *Dyrnaes* M 549 (ex-MR 156) were scrapped in 1958, *Egenaes* M 550 (ex-MR 157) and *Helgenaes*, M 551 (ex-MR 167) in 1961, *Asnaes*:P 541 (ex-M 547 ex-MR 154) and *Lynaes* P 544 (ex-M 552, ex-MR 168) in 1962)

SURVEYING VESSEL (*Opmaalingsskib*)



FREJA courtesy *Captain R. Steen Steensen, R.D.N.*

FREJA

Displacement:	322 tons
Dimensions:	124⅜ (*pp.*), 134 (*o.a.*) × 25½ × 7¼ feet
Guns:	2—20 mm. AA. (Not mounted when on Surveying Service
Machinery:	Triple expansion. 1 shaft. I.H.P.: 300=10·5 kts.
Boilers:	1 cylindrical
Oil Fuel:	15 tons
Complement:	40

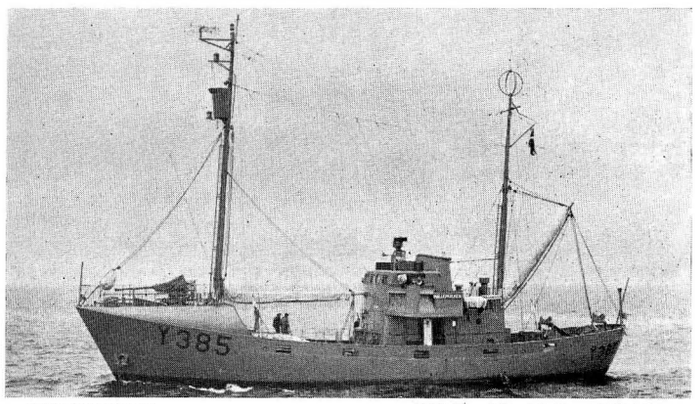
Notes

Built at Royal Dockyard, Copenhagen. Launched on 22 Dec. 1938. Pennant No. A 541.

Recent Disposals

The surveying vessel *Hejmdal*, A 542, also employed on Fishery Protection duties, was stricken from the Navy List in 1960, it is officially stated.

PATROL CRAFT (*Orlogskuttere*)



MALLEMUKKEN 1962, *Royal Danish Navy, Official*

2 "Maagen" Class

MAAGEN (Y384) **MALLEMUKKEN** (Y385)

Displacement:	190 tons
Dimensions:	88½ × 21⅔ × 9½ feet
Guns:	1—40 mm. AA.
Machinery:	H.P.: 385. 1 shaft. Speed 11 kts.

Notes

These two patrol craft for service in Greenland waters were both built at Helsingor, laid down on 15 Jan. 1960 and launched in 1960. They are of steel construction.

2 "Skarven" Class

SKARVEN (Y382) **TEJSTEN** (Y383)

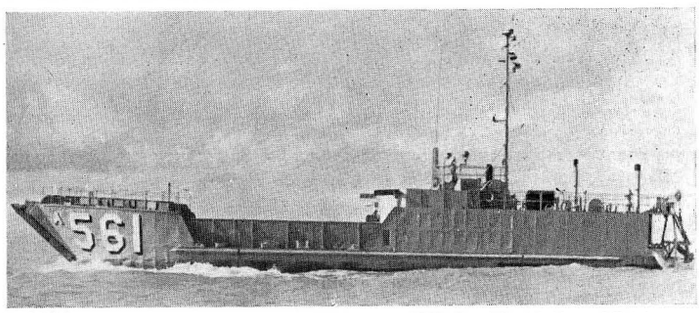
Displacement:	130 tons
Dimensions:	82 × 20⅔ × 9⅝ feet
Guns:	1—37 mm.
Machinery:	Alfa Diesel. B.H.P.: 180=9 kts.

Notes

Of wooden construction. Built by Lillevaerft, Korsor, and Holbaek Skibsbygger respectively. Launched 1951. For service in Greenland waters.

There are also some patrol craft for training the Naval Homeguard (see full details in the 1959-60 to 1961-62 editions.

LANDING CRAFT



ODIN 1962, *Royal Danish Navy, Official*

2 Ex-U.S. LCU Type

ODIN (ex-U.S. LCU 649) **THOR** (ex-U.S. LCU 765)

Displacement:	150 tons *light* (315 tons *full load*)
Dimensions:	105 (*w.l.*), 115½ (*o.a.*) × 32⅔ × 5⅓ (*max.*) feet
Guns:	2—20 mm. AA.
Machinery:	Gray Marine diesels. 3 shafts. B.H.P.: 675=10 kts.
Complement:	11

Notes

Landing Craft Utility transferred to the Royal Danish Navy from the U.S.A. on 10 Jan. 1962 and renamed as above. Pennant Nos. A 561 and A 562, respectively. Eight similar craft are being acquired from the U.S.A., to be named *Balder*, *Bragø*, *Hermod* and *Loke* (A 543-546) and *Tyr*, *Uller*, *Vale* and *Vidar* (A 564-567).

DEPOT AND REPAIR SHIPS



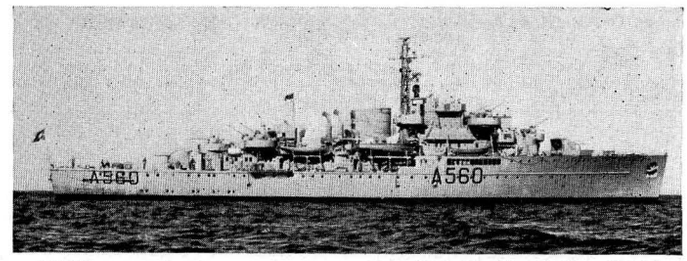
HJAELPEREN 1956, *Royal Danish Navy, Official*

HJÆLPEREN (ex-U.S. *LSM* 500)

Displacement:	1,030 tons (1,170 tons *full load*) officially revised figures
Dimensions:	203½ (*o.a.*) × 34½ × 8½ feet
Guns:	2—40 mm.
Machinery:	Diesels. 2 shafts. B.H.P.: 2,800=12 kts.
Complement:	60

Notes

Ex-United States medium landing ship. Built by Brown Shipbuilding Co., Houston, Texas Laid down on 17 Mar. 1945, launched on 7 Apr. 1945 and completed on 17 May 1945 Transferred to the Royal Danish Navy on 15 May 1953. Depot and repair ship for MTB. Pennant No.: A 563.



AEGIR 1959, *Royal Danish Navy, Official*

ÆGIR (ex-*Tanga*

Displacement:	2,620 tons *full load* (official figure)
Dimensions:	299 (311⅔ *o.a.*) × 44½ × 13½ feet
Guns:	4—4 inch, 6—40 mm. AA.
Machinery:	2 M.A.N. diesels. B.H.P.: 4,100=17·5 kts.
Complement:	200

Notes

Ex-German depot ship. Built by Neptun Werft, Rostock. Launched in 1938. Purchased and renamed. Refitted, rearmed and modernised. As rebuilt has a new lattice mast, and new anti-aircraft armament. Reconstruction was completed in June 1951. Pennant No. A 560.

TENDERS

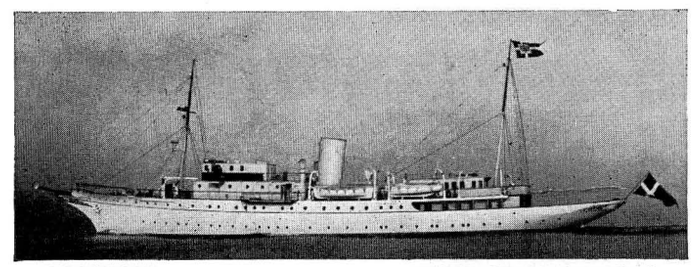
HOLLÆNDERDYBET (ex-*Den Lille Havfrue*) **KONGEDYBET** (ex-*Kirsten Piil*)

Displacement:	158 tons *full load* (88 tons *gross*)
Dimensions:	150 × 19 × 7¼ feet
Machinery:	Diesel

Notes

Both launched in 1935. Used for transport purposes. Pennant Nos. A 554 and A 555, respectively.

ROYAL YACHT (*Kongeskib*)



DANNEBROG 1958, *Royal Danish Navy, Official*

DANNEBROG

Displacement:	1,130 tons
Dimensions:	246 (*o.a.*) × 34 × 11⅔ feet
Guns:	2—37 mm.
Machinery:	2 sets Burmeister & Wain 8-cylinder, 2-cycle diesels. B.H.P.: 1,800=14 kts.
Complement:	57

Notes

Built at the Royal Dockyard, Copenhagen. Launched in 1931. Pennant No.: A 540.

ICEBREAKERS

ELBJØRN

Displacement:	893 tons *standard* (1,400 tons *full load*)
Dimensions:	157½ × 41½ × 14½ feet
Machinery:	Diesel motors. Electric drive. B.H.P.: 3,600=12 kts.

Notes

Built in 1953. Has diesel-electric drive. Photograph in the 1956-57 to 1960-61 editions.

STOREBJØRN

Displacement:	2,540 tons
Dimensions:	197 × 49¼ × 19 feet

Notes

Built in 1931. Icebreakers are controlled by the Ministry of Trade and Shipping.

LILLEBJØRN

Displacement:	1,000 tons
Dimensions:	144¾ × 36¼ × 18 feet

Notes

Built in 1926. The small icebreaker *Mjolner* was stricken from the list in 1960.

ISBJØRN

Displacement:	1,675 tons
Dimensions:	170⅔ × 40 × 22½ feet

Notes

Built in 1923. This vessel has two funnels. All the other icebreakers have only one.

DOMINICAN REPUBLIC

Administration

Chief of Naval Staff:
Commodore Francisco Javier Rivera Caminero

Vice-Chief of Naval Staff:
Commander Julio Alberto Rib Santamaria

Personnel

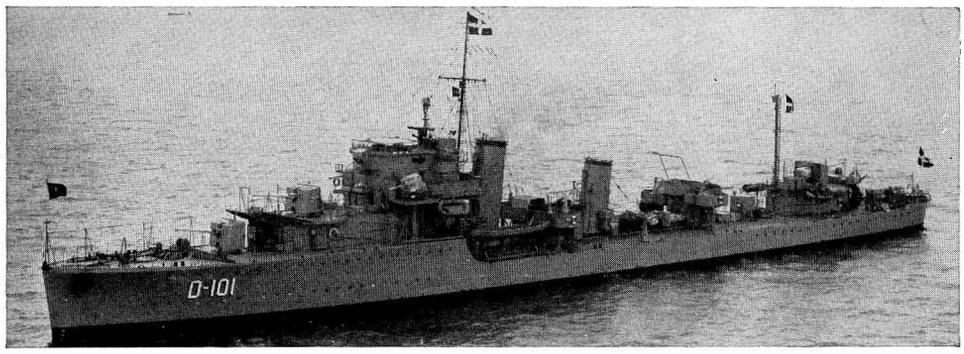
1962: 3,500 officers and men

DESTROYERS (*Destructores*)

1 Ex-British "Hero" Class

DUARTE (ex-*Trujillo*, ex-H.M.S. *Hotspur*)

Pennant No.:	D 101
Builders:	Scotts' S.B. & Eng. Co. Ltd., Greenock
Laid down:	27 Feb. 1935
Launched:	23 Mar. 1936
Completed:	29 Dec. 1936
Displacement:	1,340 tons *standard* (2,020 tons *full load*)
Dimensions:	312 (*pp.*), 320 (*w.l.*), 323 (*o.a.*) × 33 × 8½ feet (*mean*)
Guns:	3—4·7 inch, 6—20 mm. AA.
Tubes:	4—21 inch
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 34,000=36 kts. (31 kts. sea speed)
Boilers:	3 Admiralty 3-drum type
Oil fuel:	455 tons
Radius:	5,700 miles at 15 kts.
Complement:	145



DUARTE (ex-*Trujillo*) 1954, *Skyfotos*

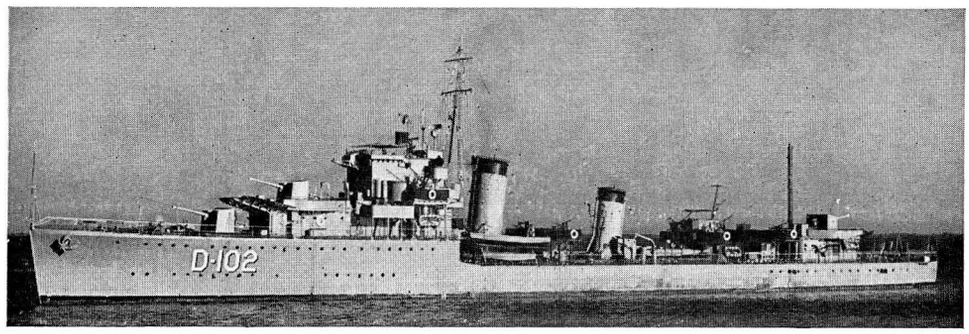
Notes

Former British destroyer of the "H" flotilla which served in the Royal Navy until Nov. 1948 when she was purchased from Great Britain and renamed *Trujillo*. Renamed *Duarte* in 1962.

1 Ex-British "Fearless" Class

SANCHEZ (ex-*Generalisimo*, ex-H.M.S. *Fame*)

Pennant No.:	D 102
Builders:	Vickers-Armstrongs. Barrow
Laid down:	5 July 1933
Launched:	23 June 1934
Completed:	26 Apr. 1935
Displacement:	1,350 tons *standard* (2,060 tons *full load*)
Dimensions:	318½ (*pp.*), 326 (*w.l.*), 329 (*o.a.*) × 33¼ × 8½ feet (*mean*)
Guns:	3—4·7 inch, 6—20 mm. AA.
Tubes:	4—21 inch
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines S.H.P.: 36,000=36 kts. (31 kts. sea speed)
Boilers:	3 Admiralty 3-drum type
Oil fuel:	480 tons
Radius:	6,000 miles at 15 kts.
Complement:	145



SANCHEZ (ex-*Generalisimo*) 1961, *Official*

Notes

Former British destroyer of the "F" flotilla which served in the Royal Navy until Feb. 1949 when she was transferred from Great Britian and renamed *Generalisimo*. Renamed *Sanchez* in 1962.

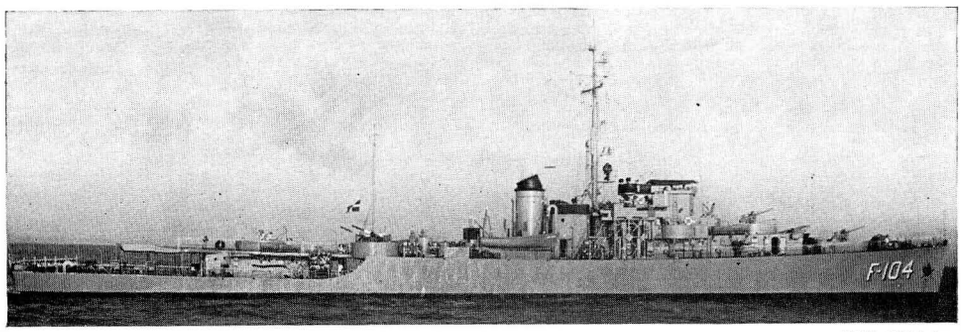
FRIGATES (*Fragatas*)

2 Ex-U.S. "River" Type

CAP. GENERAL PEDRO SANTANA (ex-*Presidente Peynado*, ex-U.S.S. *Knoxville*, *PF* 64)
GREGORIO LUPERON (ex-*Presidente Troncoso*, ex-U.S.S. *Pueblo*, *PF* 13)

Name:	*C. G. Pedro Santana*	*Gregorio Luperon*
Pennant No.:	F 104	F 103
Builders:	Leatham D. Smith S.B. Co., Wis.	Kaiser S.Y., Richmond, Cal.
Laid down:	15 Apr. 1943	14 Nov. 1943
Launched:	10 July 1943	20 Jan. 1944
Completed:	29 Apr. 1944	27 May 1944

Displacement:	1,430 tons *standard* (2,415 tons *full load*)
Dimensions:	304 (*o.a.*) × 37½ × 12 (*mean*), 13⅜ (*max.*) feet
Guns:	1—4 inch, 2—3 inch, 2—40 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19 kts. (Trial speed 20·3 kts.)
Boilers:	2, of 3-drum type
Oil fuel:	760 tons
Complement:	140



CAP. GENERAL PEDRO SANTANA (ex-*Presidente Peynado*) 1961, *Official*

Notes

Former United States "Tacoma" class frigates. Transferred to Dominican Navy in 1949. Renamed in 1962. The frigate *Juan Pablo Duarte* (ex-*Natchez*, ex-H.M.S. *Annan*) was lost.

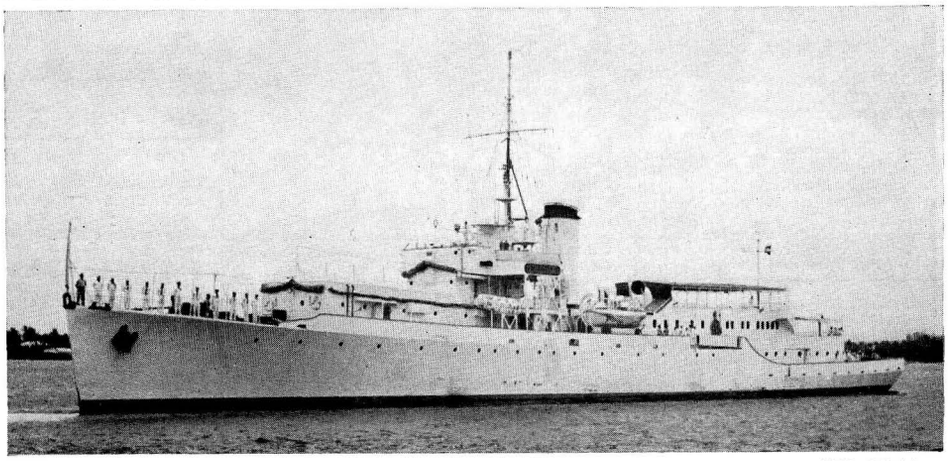
1 Ex-Canadian "River" Type

MELLA (ex-*Presidente Trujillo*, ex H.M.C.S. *Carlplace*)

Builders:	Davie S.B. and Repairing Co., Lauzon
Launched:	6 July 1944
Completed:	13 Dec. 1944
Displacement:	1,400 tons *standard* 2,125 tons (*full load*)
Dimensions:	301½ × 36¾ × 12 (*mean*) feet
Guns:	1—4 inch, 2—47 mm., 1—40 mm. AA. as frigate (no longer mounted)
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2, of 3-drum type
Oil fuel:	645 tons
Complement:	140

Notes

Transferred to the Dominican Navy in 1946. Original Dominican frigate. Modified for use as Presidential Yacht with extra accommodation and deck-houses built up aft. Pennant No. as a frigate was F 101, but as the Presidential Yacht she no longer wears it. Renamed *Mella* in 1962.



MELLA (ex-*Presidente Trujillo*) 1958, *Official*

CORVETTES (*Corbetas*)

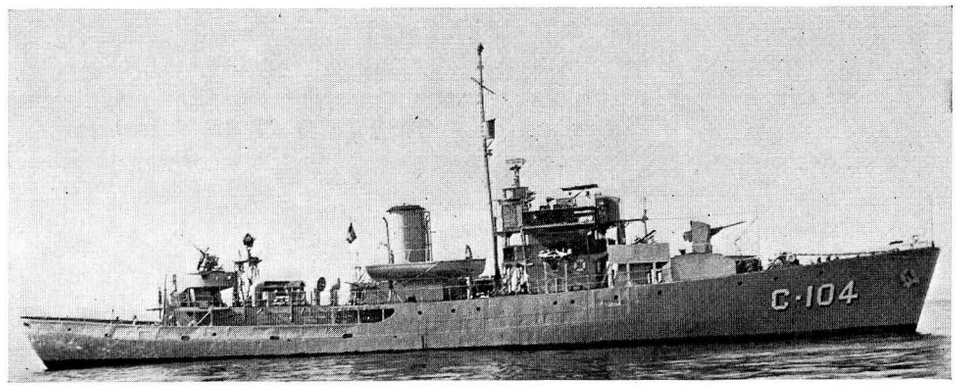
5 Ex-Canadian "Flower" Type

CRISTOBAL COLON (ex-H.M.C.S. *Lachute*)
GERARDO JANSEN (ex-H.M.C.S. *Peterborough*)
JUAN ALEJANDRO ACOSTA (ex-*Louisbourg*)
JUAN BAUTISTA CAMBIASO (ex-*Belleville*)
JUAN BAUTISTA MAGGIOLO (ex-*Rivière du loup*)

Displacement:	1,060 tons *standard* (1,350 *ton full load*)
Dimensions:	193 (*pp.*), 208 (*o.a.*) × 33 × 13¾ (*mean*) feet
Guns:	1—4 inch AA. (*Colon*, 1—3 inch). 1—40 mm., 2—20 mm. AA., 2 M.G.
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts.
Boilers:	2, of 3-drum type
Oil fuel:	232 tons
Complement:	53

Notes
Built by Kingston Shipbuilding Co., Kingston, Ont. (*Jansen* and *Cambiaso*) and Morton Ltd., Quebec City, P.Q. (other three). Transferred to the Dominican Navy in 1947. The sixth ship, *Asbestos*, was wrecked *en route* from Canada.

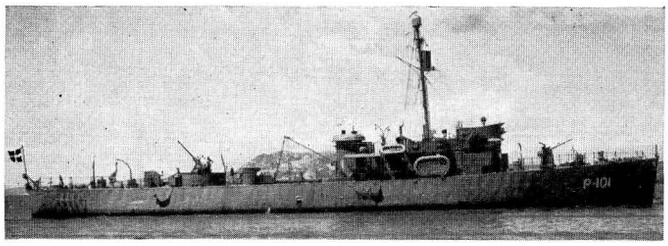
Photograph Notes
A photograph of *Juan Bautista Maggiolo* appears in the 1951-52 to 1957-58 editions. A photograph of *Cristobal Colon* appears in the 1951-52 to 1960-61 editions.



GERARDO JANSEN — 1961, *Official*

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
C 101	*Cristobal Colon*	Morton Ltd., Quebec City	9 June 1944	26 Oct. 1944
C 104	*Gerardo Jansen*	Kingston S.B. Co., Ont.	15 Jan. 1944	1 June 1944
C 102	*Juan Alejandro Acosta*	Morton Ltd., Quebec City	13 July 1943	13 Dec. 1943
C 103	*Juan Bautista Cambiaso*	Kingston S.B. Co., Ont.	17 June 1944	19 Oct. 1944
C 105	*Juan Bautista Maggiolo*	Morton Ltd., Quebec City	2 July 1943	21 Nov. 1943

PATROL VESSELS (*Patrulleros*)



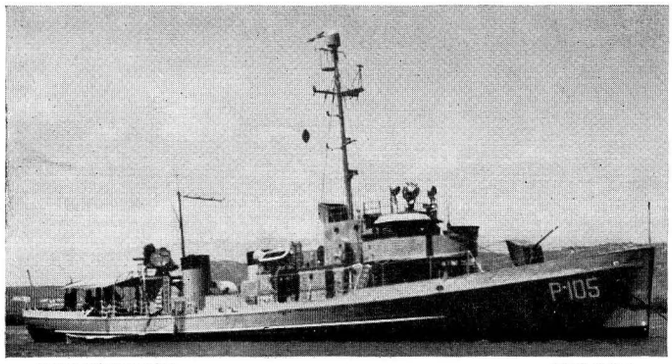
27 DE FEBRERO — 1957, *Official*

3 Ex-U.S. PC Type

27 DE FEBRERO (ex-*PC* 613, 27 Oct. 1942)
PATRIA (ex *Capitan Wenceslao Arvels*, (ex-*PC* 1202, 27 Feb. 1943)
CONSTITUCION (ex *Cibas*, ex-*Engage*, ex-*PC* 1597, 11 July 1942)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ × 23 × 7½ feet
Guns:	1—3 inch, 50 cal., 1—40 mm. AA., 1—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 3,750=22 kts.
Complement:	50

Notes
Ex-United States patrol vessels (submarine chasers). Launch dates above. Built by Gibbs Gas Engine Co., Jacksonville, Fla.; Consolidated S.B. Corp., Morris Heights, N.Y.; and Dravo Corp., Neville Island, Pa., respectively, laid down on 7 July 1942, 2 Jan. 1943, and 26 Feb. 1942, completed on 2 June 1943, 23 June 1943, and 22 Oct. 1942. Pennant Nos. P 101, P 102, and P 103, respectively. *Patria* will be discarded in 1962. Renamed in 1962.



INDEPENDENCIA — 1957, *Officia*

3 Ex-U.S.C.G. WPC Type

INDEPENDENCIA (ex-U.S. C.G.C. *Icarus*)
LIBERTAD (ex-*Rafael Atoa*, ex-U.S. C.G.C. *Thetis*)
RESTAURACION (ex-U.S. C.G.C. *Galathea*)

Displacement:	334-337 tons
Dimensions:	165 × 25½ × 9½ feet
Guns:	1—3 inch, 1—40 mm., 1—20 mm.
Machinery:	2 Diesels. B.H.P.: 1,280=15 kts.
Complement:	35

Notes
Ex-United States Coastguard Cutters. All launched in 1931-32. *Independencia* was built by Bath Iron Works in 1932, and *Resta racion* by John H. Mathis & Co., Camden, N.J., in 1933. Pennant Nos. P 105, P 106, and P 104, respectively.

TRAINING SHIP (*Goleta Auxiliar*)

DUARTE (ex-*Nueva Tioditie*)

Measurement:	170·28 tons *gross*
Dimensions:	121 × 23½ × 8½ feet
Machinery:	1 Diesel. H.P.: 200=6 kts. (*max.*)
Complement:	12

Notes
Built in Dominican Republic 1943. Auxiliary sail training vessel. Pennant No. GA 1. To be discarded in 1962.

MEDIUM LANDING SHIP (*Barcazas de Desembarco*)



SIRIO — 1961, *Official*

1 Ex-U.S. LSM Type. Rated as Auxiliary (*Buque Auxiliar*)

SIRIO (ex-U.S.S. *LSM* 483)

Displacement:	743 tons *standard* (1,100 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 7 feet
Machinery:	2 Diesel motors. 2 shafts. Speed=11 kts.
Complement:	30

Notes
Ex-United States *LSM*. (Medium Landing Ship.) Built by Brown Shipbuilding Co., Houston, Texas. Laid down on 17 Feb. 1945, launched on 10 Mar. 1945 and completed on 13 Apr, 1945. Transferred to the Dominican Navy in 1960. Pennant No. *BA* 104.

Recent Disposals
The landing ship *San Rafael*, BA-103 (ex-U.S.S. *LSM* 216) was discarded from the Service in 1960, it is officially stated. *Antares*, BA-105 (ex-U.S.S. *LSM* 538) was sold in 1959.

The landing craft *Paraiso*, BDI-103 (ex-*Quetzal*, ex-*Fantasma*, ex-U.S.S. *LCIL* 1006), transferred from the Dominican Republic Mercantile Marine in 1952, was discarded from the Service in 1960, it is officially stated. *BDI* 101 and *BDI* 102 were removed from the effective list in 1957.

UTILITY LANDING CRAFT (*Barcazas de Desembarço*)

2 LCT Type Rated as Auxiliary Landing Craft (*Lanchas Auxiliares*)

ENRIQUILLO (ex-*17 de Julio*) LA 3 — **SAMANA** LA 2

Displacement:	450 tons standard (310 tons *full load*)
Dimensions:	105 (*w.l.*), 119½ (*o.a.*) × 36 × 3¾ feet
Guns:	1 AA., 50 cal.
Machinery:	3 sets diesel motors. B.H.P.: 441=7 kts.
Oil fuel:	80 tons
Complement:	17

Notes
Both built in the Dominican Republic in 1957-58. The new *Samana*, LA 2, replaced the *Samana*, LA 2 lost in bad weather. *Enriquillo* (ex-*17 de Julio*) was launched on 24 Oct. 1957. Renamed in 1962.

Recent Disposals
The ex-United States Tank Landing Craft of the LCT (6) type, *17 de Julio* and *Maria Josefina*, Pennant Nos. *LA* 3 and *LA* 4, respectively, were withdrawn from service in 1956, but two landing craft of the same specifications were built.

YACHT

ANGELITA

Notes
Four masted yacht with auxiliary engines. Presidential Yacht.

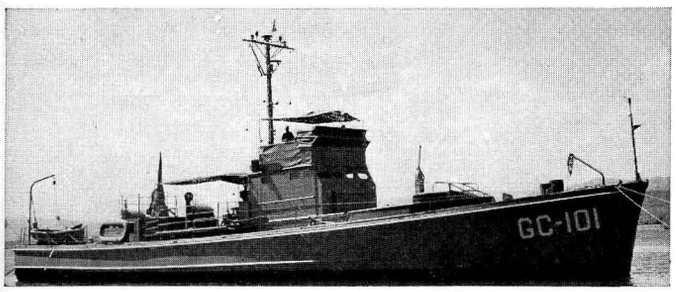
LIGHTHOUSE AND BUOY TENDER (*Buque de Faros y Boyas-Boyero*)

CAPOTILLO (ex-*Camillia*)

Displacement:	337 tons
Dimensions:	117 × 24 × 7¾ feet
Machinery:	2 Diesels. B.H.P.: 880=10 kts.
Complement:	40

Notes
Built in U.S.A. in 1911. Acquired from the U.S.C.G. in 1949. Pennant No. FB 101. Photograph of this ship in the 1957-58 edition.

COAST GUARD VESSELS (*Guardacostas*)

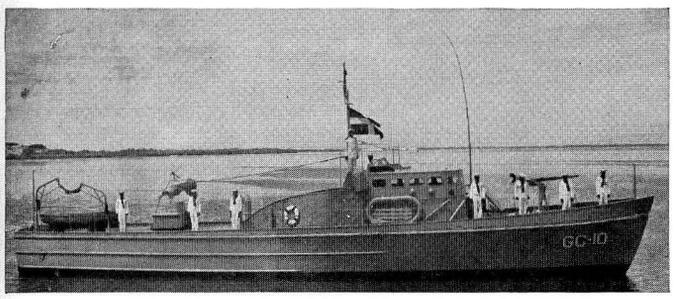


LAS CARRERAS (ex-*Sanchez*) 1952, *Official*

30 DE MARZO (ex *Mella*, ex-*Rosa*, ex-*SC* 1351, 11 March 1943)
LAS CARRERAS (ex-*Sanchez*, ex-*Patria*, ex-*SC* 1353, 3 June 1943)

Displacement:	85 tons standard (130 tons *full load*)
Dimensions:	107½ (*w.l.*), 111 (*o.a.*) × 17 × 6½ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 4,000=19·5 kts.
Fuel:	15 tons
Complement:	20

Notes
Built by Vineyard Boat Bldg. Co., Milford, Del. Launch dates above. Wood. Pennant Nos. GC 102 and GC 101, respectively. Renamed *Sanchez* and *Mella* in 1957. Renamed in 1962.



BAHIA OCOA (ex-*22 de Junio*) 1957, *Official*

LAS CALDERAS (ex-*Luperon*)	BAHIA OCOA (ex-*22 de Junio*)	BAHIA MANZANILLO (ex-*16 de Agosto*)
Displacement:	47 tons standard	
Dimensions:	83 × 16½ × 4½ feet	
Guns:	2—20 mm., 2 M.G., 8 D.C.	
Machinery:	Diesel. B.H.P.: 1,200=23·5 kts.	

Notes
Built by Wheeler Shipyards, Brooklyn. Launched in 1943. Hulls are of wood. Ex-U.S.C.G. cutters 56197, 56198 and 56199, respectively. Pennant Nos. GC 9, GC 10 and GC 11, respectively. Named in 1957. GC 3, GC 4, GC 5, GC 6 and GC 7 were discarded in 1957. *Bahia Manzanillo* will be discarded in 1962. Renamed in 1962.

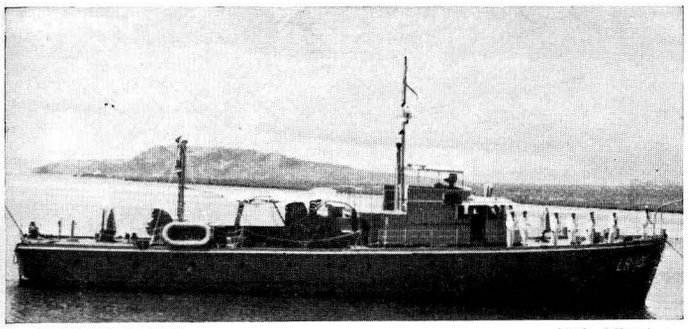
TRINITARIA

Displacement:	28 tons standard
Dimensions:	62 × 12 × 4 feet
Machinery:	Petrol motor. B.H.P.: 200=10 kts.

Notes
Built in the Dominican Republic. Launched in 1941. Hulls are of wood. No armament. Named *Trinitaria* in 1957. Pennant No. GC 8. Photograph in 1957-58 edition.

Recent Disposal
The Coast Guard vessel *Boya*, GC-2, was discarded from the Service in 1960, it is officially stated. *Trinidad* will be discarded in 1962.

RESCUE LAUNCHES (*Lanchas de Rescate*)



CAPITAN ALSINA 1959, *Official*

CAPITAN ALSINA **CAPITAN MADURO**

Displacement:	100 tons standard
Dimensions:	92 (*w.l.*), 104¾ (*o.a.*) × 19¼ × 5¾ feet
Guns:	2—20 mm. AA., 2 M.G.
Machinery:	*Capitan Alsina*: Diesel; *Capitan Maduro*: 2 Packard engines. 2 shafts. H.P.: 1,000=17 kts.
Complement:	20

Notes
Of wooden construction. All launched in 1944. Named as above in 1957. Pennant Nos R101 and LR 103, respectively. LR 102 was lost in 1956.

MOTOR LAUNCHES (*Lanchas Auxiliares*)

MAIMON

Dimensions:	53 × 9 × 4 feet
Machinery:	2 motors. H.P.: 500=14 kts.
Complement:	4

Notes
Acquired for the Hydrographic Service of the Navy in 1960. Pennant No.: LA-5.

Recent Disposals
The motor launch *Altagracia*, LA-1 (ex-*Laura*) was discarded from the Service in 1960, it is officially stated and the motor launch *Najayo*, LA 4, was discarded in 1962.

FLEET OILERS

SAN CARLOS

Displacement:	2,395 tons
Machinery:	Triple expansion. 1 shaft
Boilers:	2, working at a pressure of 175 lb. per sq. in.
Fuel:	22,596 gallons

Notes
Pennant No. BT 102. A photograph of this ship appears in the 1957-58 edition.

ULISES HEUREAUX (ex-*24 de Octubre*, ex-*YO 2*)

Displacement:	1,460 tons
Measurement:	602 tons *gross*
Dimensions:	180 × 30 × 13¾ feet
Machinery:	2 Diesels. B.H.P.: 480=8 kts. (Loaded speed)
Capacity:	280,000 gallons
Complement:	27

Notes
Built in U.S.A. in 1943. Recently used by Government as a commercial carrier. Pennant No. BT 101. Photograph in the 1957-58 edition.

Recent Disposals
The auxiliary ships (*Buques Auxiliares*) 18 *de Diciembre*, BA-101 (ex-U.S. *WPC* 587), converted patrol vessel, and *Leonor*, BA-102 (ex-*Romanita*), were discarded from the Service in 1960, it is officially stated.

TUGS (*Remolcadores*)

HERCULES **GUACANAGARIX**

Dimensions:	70 × 18½ × 9 feet
Machinery:	1 motor. H.P.: 500. 1,225 r.p.m.
Complement:	11

Notes
Small tugs of new construction. Pennant Nos. R 2 and R 5, respectively.

ISABELA

Displacement:	40 tons
Dimensions:	65 × 14 × 9 feet
Machinery:	2 Diesel motors. B.H.P.: 300=8 kts.
Complement:	8

Notes
Built in U.S.A. Named *Isabela* in 1957. Pennant No. R 1. Photograph in the 1951-52 to 1957-58 editions. The tug *Hercules* (ex-*Heracles*) transferred from Dominican mercantile marine in 1952, Pennant No. R 2, was lost in 1956.

MERCEDES **SANTANA**

Notes
Small tugs. Pennant Nos. R 10 and R 7, respectively.

Recent Disposals
The tugs *Bergantin*, R-6, *Catalina*, R-3, *Leonidas*, R-8 and *Luperon* R-4, were discarded from the Service in 1960-62, it is officially stated.

EAST AFRICA

Official Statement, 16 December 1961:—

DISBANDMENT OF THE ROYAL EAST AFRICAN NAVY

The Tanganyika Government recently conveyed to the East Africa High Commission its decision that the Royal East African Navy in its present form was not suitable to meet the future requirements of Tanganyika as, being based at Mombasa, it was unable to operate with its existing resources effectively in Tanganyika waters. As the result of this decision the Governments of Kenya and Uganda considered whether it was possible for them to meet any increase in expenditure necessary to keep the Royal East African Navy in being on a modified basis to meet the requirements of those two territories and those of Zanzibar which, although a minor contributor, had intimated that it would bear a proportion of any additional cost. After detailed consideration and being aware that apart from recurrent expenditure, substantial capital finance was needed to retain the Navy in operation on a proper basis, the Governments have decided with the greatest reluctance that having regard to their present financial position they are unable to do so.

The Royal East African Navy was formed in 1950 and succeeded the Kenya Royal Naval Volunteer Reserve. In 1953 it was given the honour of being designated the Royal East African Navy. It has shown itself to be a most efficient Force and has performed many services of value to East Africa including assistance in the current famine relief operations. The decision to disband it has been taken only after the most careful consideration and with great regret. Administrative details in connection with the disbandment will be worked out in consultation between the East African Governments, the United Kingdom Government and the East African Common Services Authority.

MINESWEEPING TRAWLER



ROSALIND 1961, *Royal East African Navy, Official*

ROSALIND

Notes
On loan to the Royal East African Navy as a training ship but is now nearing the end of her useful life. At Mombasa. See full particulars under Trawlers in Great Britain section, page 291.

General Notes
There is also *MFV* 206 *Mvita*, which is the base ship at Kilindini.

Inshore Minesweeper Notes
The inshore minesweeper *Bassingham* is no longer a unit of the Royal East African Navy. She was returned to the Royal Navy on 9 Oct. 1961, as part of a plan for replacement by another more suitable vessel. In the meantime, however, an official announcement (see above) stated the declared intention of the Governments of the East African territories and Zanzibar to disband the Royal East African Navy. This was expected to be completed by 30 June 1962.

ECUADOR

Administration

Minister of Defence:
Sr. Gustavo Diez Delgado

Chief of Naval Staff:
Captain Sergio Saenz Bejarano

Commander-in-Chief of the Navy:
Rear Admiral Luis Gomez Cevallos

Naval Attaché in London:
Colonel G. Fernandez

Personnel

1962: 3,700 officers and men
Naval Academy: In Salinas

Naval Bases

In Galápagos, Guayaquil and Salinas

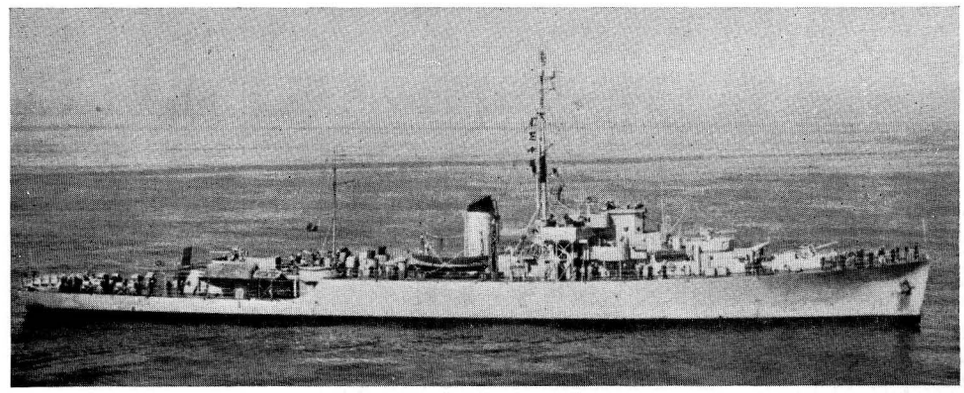
FRIGATES

1 Ex-U.S. PF Type

GUAYAS (ex-U.S.S. *Covington*, *PF* 56)

Pennant No.:	PF 1
Builders:	Globe S.B. Co., Superior, Wis.
Laid down:	1 Mar. 1943
Launched:	15 July 1943
Completed:	3 Aug. 1944

Displacement:	1,430 tons *standard* (2,415 tons *full load*)
Dimensions:	304 (*o.a.*) × 37½ × 13⅔ feet
Guns:	2—3 inch, 2—40 mm. AA., 4—20 mm. AA.
A/S weapons:	3 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. (designed), sea speed 18 kts.
Boilers:	2 small tube
Oil fuel:	290 tons *normal*, 645 tons *max.*
Radius:	7,000 miles at 19 kts.; 9,500 miles at 12 kts.
Complement:	150



GUAYAS 1960, *courtesy Mr. W. H. Davis*

Notes
Former United States patrol frigate of the PF type. Purchased from the U.S.A. in 1947. Similar in design to British "River" class frigates.

2 Ex-British "Hunt" Class (Type 1) Escort Destroyers

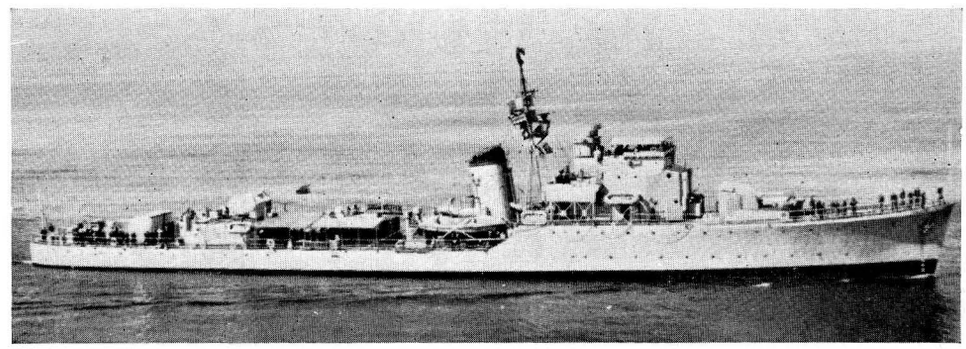
PRESIDENTE ALFARO (ex-*H.M.S. Quantock*)
PRESIDENTE VELASCO IBARRA (ex-*H.M.S. Meynell*)

Name:	*Presidente Alfaro*	*Presidente Velasco Ibarra*
Pennant No.	DD1	DD2
Builders:	Scott's Shipbuilding & Eng. Co., Ltd., Greenock.	Swan, Hunter & Wigham Richardson, Ltd., Wallsend.
Laid down:	26 July 1939	10 Aug. 1939
Launched:	22 Apr. 1940	7 June 1940
Completed:	6 Feb. 1941	30 Dec. 1940

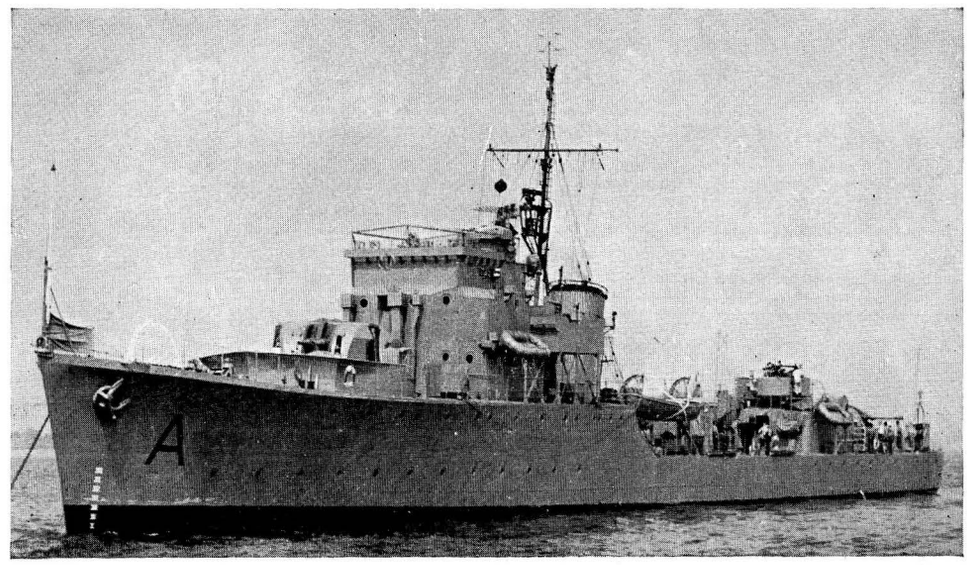
Displacement:	1,000 tons *standard* (1,490 tons *full load*)
Dimensions:	272½ (*pp.*), 280 (*o.a.*) × 29 × 7¾ (*mean*) 14 (*max.*) feet
Guns:	4—4 inch AA., 4—2 pdr., 2—20 mm. AA.
A/S weapons:	D.C.T., D.C. racks
Machinery:	Parsons geared turbines (by Wallsend Slipway in *Presidente Velasco Ibarra*). 2 shafts. S.H.P.: 19,000=30 kts. (designed). Sea speed 26·75 kts. (*max.*)
Boilers:	2 Admiralty 3-drum type
Oil fuel:	280 tons
Radius:	2,000 miles at 12 kts.; 800 miles at 25 kts.
Complement:	146

Notes

Former British frigates (ex-escort destroyers) of the "Hunt" Class, Type 1, purchased by Ecuador from Great Britain in 1955, and refitted by J. Samuel White & Co. Ltd., Cowes, Isle of Wight. *Quantock* was taken over by the Ecuadorian Navy from the Royal Navy in Portsmouth Dockyard on 16 Aug. 1955, when she was renamed *Presidente Alfaro*. Sister ship *Meynell* was transferred to the Ecuadorian Navy later and renamed *President Velasco Ibarra*.



PRESIDENTE VELASCO IBARRA 1960, *courtesy Mr. W. H. Davis*



PRESIDENTE ALFARO 1957, *Official*

ESCORT PATROL VESSELS

2 Ex-U.S. PCE Type Escort Patrol Vessels

ESMERALDAS (ex-U.S.S. *Eunice*, PCE 846)
MANABI (ex-U.S.S. *Pascagoula*, PCE 874)

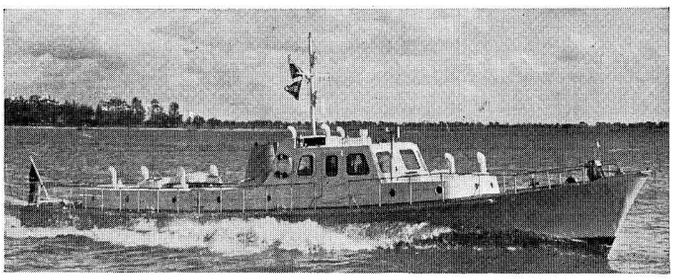
Name:	*Esmeraldus*	*Manabi*
Builders:	Pullman Standard Car Manufacturing Co., Chicago, Ill.	Albina Eng. & Mach. Works, Portland, Oreg.
Laid down:	10 Aug. 1943	1 Mar. 1943
Launched:	20 Dec. 1943	11 May 1943
Completed:	4 Mar. 1944	31 Dec. 1943
Transferred:	29 Nov. 1960	5 Dec. 1960

Displacement: 640 tons *standard* (903 tons *full load*)
Dimensions: 180 *w.l.*), 184½ (*o.a.*) × 33 1/12 × 9 5/12 feet
Guns: 1—3 inch dual purpose, 6—40 mm. AA.
A/S weapons: 4 D.C.T.
Machinery: General Motors diesels. 2 shafts. B.H.P.: 1,800=15·4 kts.
Complement: 100 officers and men

Notes
Built in the U.S.A. as above. Former United States patrol vessels (180 ft. Escorts) transferred from the U.S. Navy to the Ecuadorian Navy in 1960.

Recent Disposals
The patrol vessel (*guardacosta*) *Manabi* (ex-*Diez de Agosto*, ex-U.S.S. *Opal*, ex-*Coronet*) ex-yacht *PYc 8*, acquired from the United States Navy in Sep. 1943, was officially deleted from the list in 1960.
The patrol vessel (ex-yacht) *Esmeraldas* was sunk at Guayaquil in Guayas River 7 Sep. 1953.
The training ship *Presidente Alfaro* (ex-*Ara*) was discarded in 1956.

PATROL BOATS



LP 1 1955, *Ecuadorian Navy Official*

6 German Type

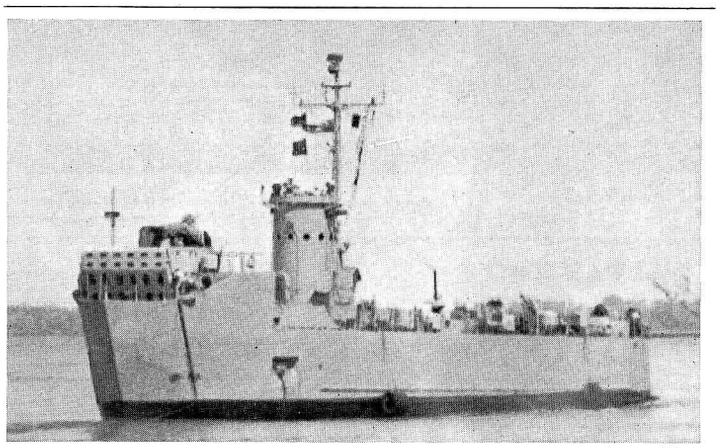
LSP 1 **LSP 2** **LSP 3** **LSP 4** **LSP 5** **LSP 6**

Displacement: 45 tons *standard* (64 tons *full load*)
Dimensions: 76¾ × 13½ × 4½ (*mean*), 6½ (*max.*) feet
Armament: AA. and ASW weapons
Machinery: Bohn & Kähler diesel. 2 shafts. B.H.P.: 1,200=22 kts.
Radius: 550 miles at 16 kts.
Complement: 9

Notes
Built by Hermann Havighorst, Bremen-Blumenthal. Ordered in 1954. First two were delivered August 1954, and the remainder in 1955.

Recent Disposals
The patrol boats LP 7 to LP 12 were officially deleted from the list in 1960.

LANDING SHIPS



JAMBELI 1960, *Ecuadorian Navy, Official*

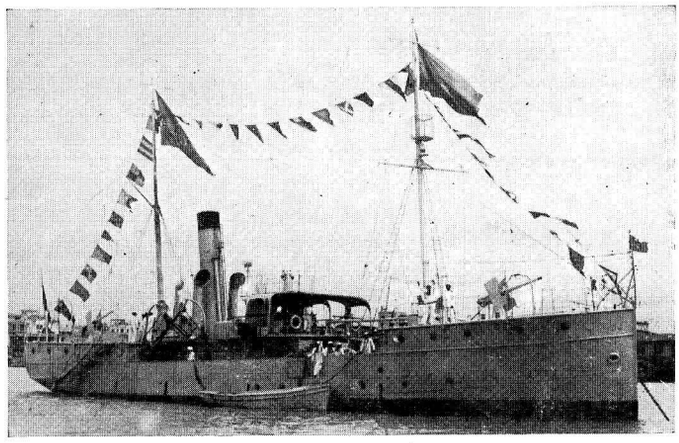
2 Ex-U.S. LSM Type

JAMBELI (ex-*U.S.S. LSM* 539) **TARQUI** (ex-U.S.S. *LSM* 555)

Displacement: 743 tons *beaching* (1,095 tons *full load*)
Dimensions: 196½ (*w.l.*), 203½ (*o.a.*) × 34¼ × 8½ feet
Guns: 2—40 mm. Bofors AA.
Machinery: Diesels. 2 shafts. B.H.P.: 2,800=12·5 kts.
Complement: 60

Notes
Former United States Medium Landing Ships (LSM). *Jambeli* was laid down by Brown Shipbuilding Co., Houston, Tex., on 10 May 1945. *Tarqui* was laid down by the Navy Yard, Charleston, S.C. on 3 Mar. 1954 and launched on 22 Mar. 1955. Purchased from the U.S.A. in 1958 and transferred to the Ecuadorian Navy at Green Cove Springs, Florida.

COAST GUARD VESSELS



ABDON CALDERON *Added 1955, Official*

ABDON CALDERON (ex-*Cotopaxi*)

Displacement: 300 tons
Dimensions: 124½ (*pp.*), 135 (*o.a.*) × 22 × 9 feet
Guns: 2—3 inch
Machinery: Triple expansion. 1 shaft. I.H.P.: 175=8 kts. (present best speed). Oil fuel

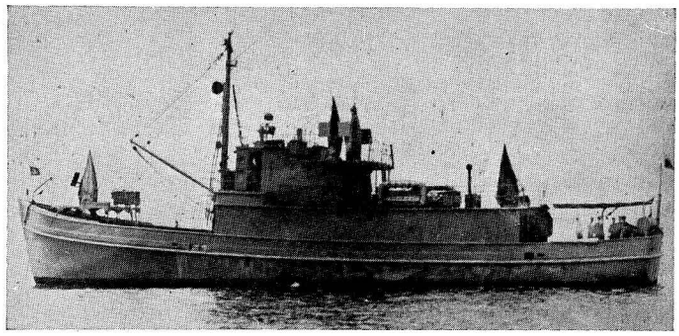
Notes
Former coasting steamer. Built at Port Glasgow. Launched in 1884. Built of iron. Is employed as a patrol vessel, on Coast Guard duties, and as lighthouse tender.

ATAHUALPA

Displacement: 70 tons *standard* (100 tons *full load*)
Dimensions: 74 × 17 × 5 feet
Guns: 2 M.G.
Machinery: Diesel. 1 shaft. B.H.P.: 140=8 kts.
Complement: 14

Notes
Coast Guard vessel. Built at Guayaquil. Launched in 1927. Employed as lighthouse tender

TRANSPORT



EL ORO *Added 1955, Official*

EL ORO (ex-*Cinco de Junio*, ex-*APc 85*)

Displacement: 165 tons *standard* (258 tons *full load*)
Dimensions: 98 (*w.l.*), 103¼ (*o.a.*) × 21¼ × 9¼ feet
Guns: 4—20 mm. AA.
Machinery: Diesel. 1 shaft. B.H.P.: 400=10 kts.
Complement: 25

Notes
Built 1943 in U.S.A. by Herreshoff Manufacturing Company. Launched on 12 Mar. 1943 Purchased from the U.S. Navy in 1943. Accommodation for 66 troops.

Auxiliary Notes
Although not on the Navy List of Ecuador the hulls of the former U.S. Navy high speed transports (modified destroyer escorts) *Reeves*, APD 52, *Frament*, APD 77, *Crosley*, APD 87, *Hunter Marshall*, APD 112, *Walter S. Gorka*, APD 114, and *Bray*, APD 139, were transferred from the United States in July and Aug. 1961 for use as floating power plants.

TUGS

LOS RIOS (Ex-U.S.S. *Cusabo*, ATF 155)

Displacement: 1,235 tons *standard* (1,675 tons *full load*)
Dimensions: 195 (*w.l.*), 205 (*o.a.*) × 38½ × 12 (*mean*), 15½ (*max.*) feet
Guns: 1—3 inch, 4—40 mm. AA. 2—20 mm. AA.
Machinery: 4 sets diesels with electric drive. B.H.P.: 3,000=16·5 kts.
Complement: 85

Notes
Formerly a fleet ocean tug of the " Apache " class in the U.S. Navy. Launched on 26 Feb 1945. Fitted with powerful pumps and other salvage equipment. Transferred to Ecuador by the United States for five years lease on 2 Nov. 1960. The auxiliary floating dock ARD 17, now renamed *Amazonas*, was also transferred on 7 Jan. 1961, and dry dock companion craft YFND 20 was leased on 2 Nov. 1961.

COTOPAXI (ex-*R. T. Ellis*)

Displacement: 150 tons
Dimensions: 82 × 21 × 8 feet
Machinery: Diesel. 1 shaft. B.H.P.: 650=9 kts.

Notes
Former American tug. Built by Equitable Building Co. Incorp. Purchased from the United States in 1947. Photograph in the 1956-57 to 1959-60 editions.

EGYPT

Administration

Commander-in-Chief and Chief of Staff of the Navy:
Rear Admiral Soliman Izzat

Personnel

1962: 6,200 officers and men

Mercantile Marine

Lloyd's Register of Shipping
90 vessels of 201,016 tons gross

DESTROYERS

2 + 4 Ex-U.S.S.R. "Skoryi" Class

AL NASSER **AL ZAFFER**

Displacement:	2,600 tons *standard* (3,500 tons *full load*)
Dimensions:	393¾ (*pp.*), 420 (*o.a.*) × 41 × 13⅛ feet
Guns:	4—5·1 inch; 2—3 inch AA.; 7—37 mm., AA.
Tubes:	10—21 inch (quintrupled)
A/S weapons:	4 D.C.T.
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 70,000=38 kts.
Boilers:	3
Radius:	4,000 miles at 15 kts.
Complement:	250

Notes
Formerly of the "Skoryi" class destroyers in the Soviet Navy. Launched in 1951. *El Nasser* and *Al Zaffer* were delivered to the Egyptian Navy on 11 June 1956 at Alexandria. The implication of each name in Arabic is "victory."



SKORYI Class *Added* 1958

It was reported in Dec. 1959 that six destroyers had been or were being transferred from the U.S.S.R. to Egypt.

Cruiser Notes
It was reported in 1961 that Egypt was expecting to purchase two cruisers in the near future.

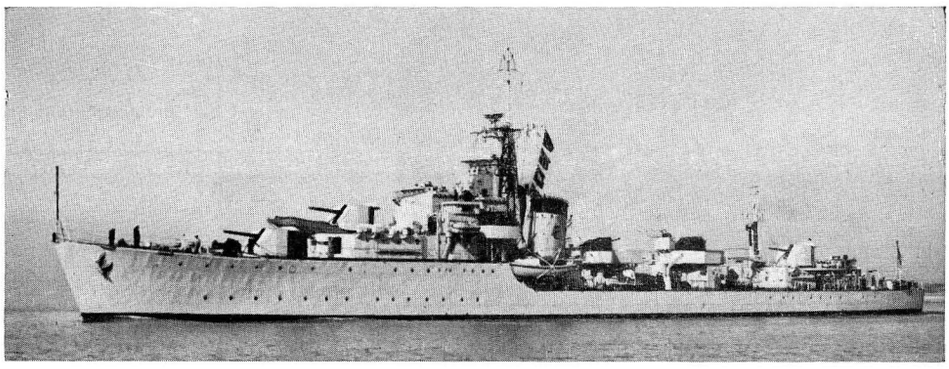
2 Ex-British "Z" Class

EL FATEH (ex-*Zenith*) **EL QAHER** (ex-*Myngs*)

Name	*El Fateh*	*El Qaher*
Builders:	Wm. Denny & Bros. Ltd., Dumbarton	Vickers-Armstrongs' Ltd., Tyne
Laid down:	19 May 1942	27 May 1942
Launched:	5 June 1944	31 May 1943
Completed:	22 Dec. 1944	23 June 1944

Displacement:	1,730 tons *standard* (2,575 tons *full load*)
Dimensions:	362¾ × 35¾ × 16 (*max.*) feet
Guns:	4—4·5 inch d.p.; 6—40 mm. AA.
A/S weapons:	4 D.C.T.
Tubes:	8—21 inch
Machinery:	Parsons geared turbines. S.H.P.: 40,000=36·75 kts. (designed), sea speed 31·25 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	250

Notes
Formerly of the "Z" class destroyers in the British Navy. Purchased from Great Britain in 1955. *El Qaher* was refitted by J. Samuel White & Co. Ltd., Cowes, Isle of Wight, and *El Fateh* refitted by John I. Thornycroft & Co. Ltd., Woolston, Southampton in July 1956.



EL FATEH *Added* 1956, *Official*



EL QAHER 1953, *Wright & Logan*

FRIGATES

1 Ex-British "Black Swan" Class

TARIK (ex-*El Farouq*, ex-*Whimbrel*)

Pennant No.:	41
Builders:	Yarrow & Co., Ltd., Glasgow
Laid down:	31 Oct., 1941
Launched:	25 Aug., 1942
Completed:	13 Jan., 1943

Displacement:	1,490 tons *standard* (1,925 tons *full load*)
Dimensions:	299½ × 38½ × 8¾ feet (11 *max.*)
Guns:	6—4 inch, 4—40 mm., 2—20 mm. AA
A/S weapons:	4 D.C.T.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 4,300=19·75 kts. (designed), sea speed 18 kts.
Boilers:	2, of 3-drum type
Oil fuel:	370 tons
Radius:	4,500 miles at 12 kts.
Complement:	180



TARIK 1951 *A. & J. Pavia*

Notes
Formerly of the "Black Swan" class sloops (later re-rated as frigates) in the British Navy. Transferred from Great Britain in Nov. 1949. As a flotilla leader she had a broad band painted on the funnel and a thinner flotilla bands

Frigates—*continued*

1 Ex-British " River " Class

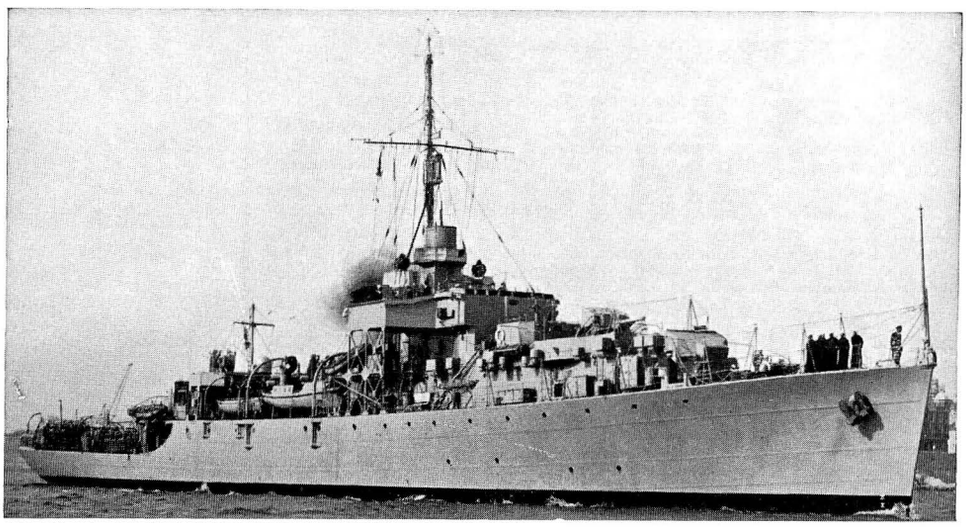
RASHEED (ex-*Spey*)

Pennant No.: 43
Builders: Smith's Dock Co. Ltd., Middlesbrough
Laid down: 18 July 1941
Launched: 10 Dec. 1941
Completed: 19 May 1942

Displacement: 1,490 tons *standard* (2,216 tons *full load*)
Dimensions: 283 (*pp.*) 301½ (*o.a.*) × 36¾ × 14 feet
Guns: 2—4 inch, 2—40 mm. AA., 6—20 mm. AA.
A/S Weapons: 4 D.C.T.
Machinery: Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. (designed), sea speed 18 kts.
Boilers: 2 Admiralty 3-drum type
Oil fuel: 640 tons
Radius: 9,500 miles at 12 kts.
Complement: 140

General Notes
Formerly of " River " class frigates in the British Navy. Purchased from Great Britain in Nov. 1948. Refitted by Willoughby (Plymouth), Ltd., and sailed for Egypt in Apr. 1950.

Class Notes
Of her two sister ships *Abikir* (ex-H.M.S. *Usk*) was sunk as a blockship in the Suez Canal in Nov. 1956 (raised and dumped in Apr. 1957); and *Domiat* (ex-H.M.S. *Nith*) was sunk by the British cruiser *Newfoundland* off Suez on 1 Nov. 1956.



RASHEED — 1950, *Royal Egyptian Navy, Official*

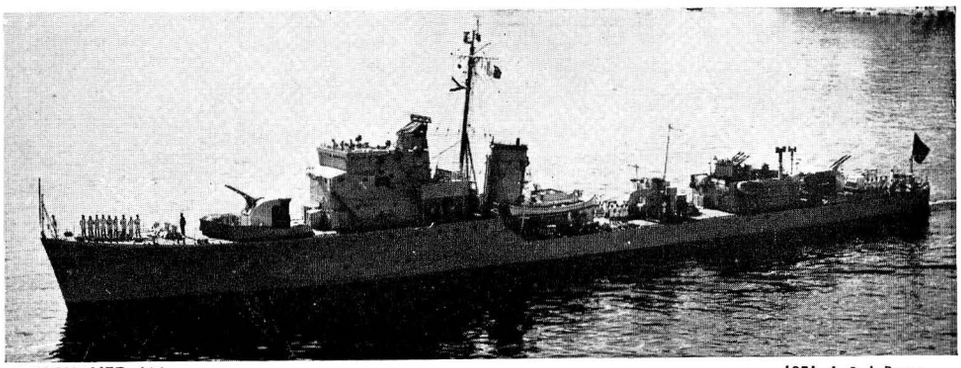
1 Ex-British " Hunt " Class

MOHAMED ALI (ex-*Ibrahim el Awal*, ex-*Cottesmore*)

Pennant No. 11
Builders: Yarrow & Co., Ltd., Scotstoun, Glasgow.
Laid down: 12 Dec. 1939
Launched: 5 Sep. 1940
Completed: 29 Dec. 1940

Displacement: 1,000 tons *standard* (1,490 tons *full load*)
Dimensions: 273½ (*pp.*), 280 (*o.a.*) × 29 × 7¾ (*mean*), 14 (*max.*) feet
Guns: 4—4 inch, 2—40 mm., 2—20 mm. AA., 5—2 pdr.
A/S Weapons: 2 D.C.T.
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 19,000=29·5 kts. (designed), sea speed 26 kts.
Boilers: 2, of 3-drum type
Oil Fuel: 280 tons
Radius: 2,000 miles at 12 kts.
Complement: 146

General Notes
Former British escort destroyer (later re-rated as frigate) of the " Hunt " Class, Type I. She served in the British Navy from 1940, but she was transferred from the British Navy to the Egyptian Navy in July 1950, and sailed for Egypt in April 1951, after a nine months' refit by J. Samuel White & Co. Ltd., Cowes. She was first renamed *Ibrahim el Awal* but was renamed *Mohamed Ali el Kebir* about 1951.



MOHAMED ALI — 1951, *A. & J. Pavia*

Class Notes
Sister ship *Ibrahim el Awal* served in the British Navy as H.M.S. *Mendip* until 1948, when she was transferred to the Chinese Navy and renamed *Lin Fu*; she was returned to the British Navy at Hong Kong a year later and reverted to her original name, but was transferred to the Egyptian Navy in Nov. 1949, when she was first renamed *Mohamed Ali el Kebir* but was afterwards again renamed *Ibrahim el Awal*, exchanging names with her sister ship about 1951-52. The *Ibrahim el Awal* (ex-*Mohamed Ali el Kebir*, ex-*Mendip*, ex-*Lin Fu*, ex-*Mendip*) surrendered to Israeli forces off Haifa on 31 Oct. 1956; she was rehabilitated and incorporated into the Israeli Navy and renamed *Haifa* (see later page).

1 Ex-British " Flower " Class

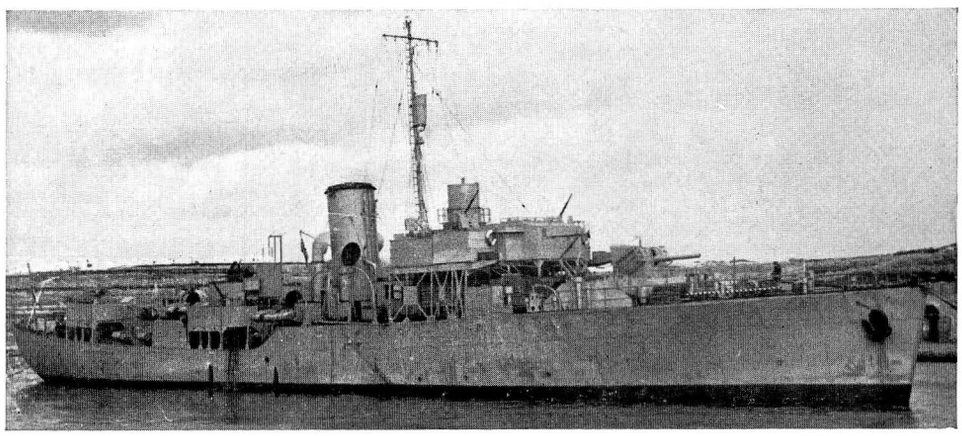
EL SUDAN (ex-*Mallow*, ex-*Partizanka*, ex-*Nada*, ex-*Mallow*)

Builders: Harland & Wolff, Ltd., Belfast
Laid down: 14 Nov., 1939
Launched: 22 May, 1940
Completed: 2 July, 1940

Displacement: 1,060 tons *standard* (1,340 tons *full load*)
Dimensions: 190 (*pp.*), 205 (*o.a.*) × 33 × 14½ feet (*max.*)
Guns: 1—4 inch AA., 1—2 pdr., 2—20 mm. AA.
Machinery: Triple expansion. I.H.P.: 2,750=16 kts.
Boilers: 2 S.E.
Oil fuel: 230 tons
Radius: 7,000 miles at 10 kts.
Complement: 85

General Notes
Formerly of the " Flower " class corvettes (later re-rated as Frigates) in the British Navy. Taken over by Yugoslavia in 1943 (loaned). Returned to the British Navy early in 1949 and transferred to Egypt on 28 Oct. 1949.

Class Notes
Sister ship *Misr* (*S.S. Malrouk*) was rammed and sunk by collision south of Suez 16th-17th May 1953.



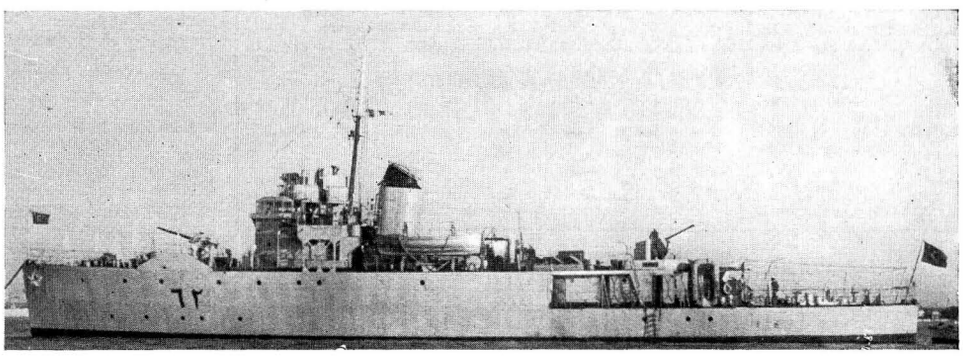
EL SUDAN — 1951, *A. & J. Pavia*

CORVETTES (*ex-Fleet Minesweepers*)

2 Ex-British " Bangor " Class

	MATROUH (ex-*Stornoway*)	**NASR** (ex-*Bude*)
Name:	*Matrouh*	*Nasr*
Builders:	Henry Robb, Ltd., Leith	Lobnitz & Co., Ltd., Renfrew
Laid down:	17 July 1940	2 Apr. 1940
Launched:	10 June 1941	4 Sep. 1940
Completed:	17 Nov. 1941	12 Dec 1941

Displacement: 672 tons standard (900 tons *full load*)
Dimensions: 180 (*o.a.*) × 28½ × 9½ feet
Guns: 1—4 inch, 1—3 inch, 2—40 mm. AA. (4—20 mm. in *Matrouh*)
A/S Weapons 2 D.C.T.
Machinery: Triple expansion. 2 shafts. I.H.P.: 2,400=16 kts. (designed), sea speed 14 kts.
Boilers: 2 Admiralty 3-drum type
Oil fuel: 170 tons
Radius: 4,300 miles at 10 kts.
Complement: 60



MATROUH — 1955, *Egyptian Navy, Official*

General Notes
Former " Bangor " class fleet minesweepers acquired from Great Britain. Now rated as corvettes.

Class Notes
Sister ship *Sollum* sank in heavy weather off Alexandria on 7 Mar. 1953.

SUBMARINES

8 Ex-U.S.S.R. "W" Class

Displacement:	1,300 tons *surface*, 1,600 tons *submerged*
Dimensions:	245 (o.a.) × 24 × 14 feet
Guns:	1—3·9 inch; 1 light AA.
Tubes:	8—21 inch
Machinery:	Diesels. B.H.P.: 4,000=17 kts. *surface*; Electric motors. H.P.: 2,500=16 kts. *submerged*
Radius:	13,000 miles
Complement:	60

Notes
Medium size, long range, streamlined submarines of the "W" class, the first units of which were transferred from the Soviet Navy to the Egyptian Navy in June 1957. Three more arrived at Alexandria on 24 Jan. 1958.

1 Ex-U.S.S.R. "M V" Class

Displacement:	350 tons *surface*; 420 tons *submerged*
Dimensions:	167½ × 16 × 12 feet
Guns:	1—45 mm. A.A., 1 M.G.
Tubes:	2—21 inch
Machinery:	Diesels. B.H.P.: 1,000=13 kts., *surface*. Electric motors. H.P.: 800=10 kts. submerged
Radius:	4,000 miles at 8½ kts. *surface*, 100 miles at 5 kts., *submerged*
Complement:	24

Notes
Coastal submarine of the "M V" type, launched in 1950, and transferred from the Soviet Navy to the Egyptian Navy in June 1957.

FLEET MINESWEEPERS

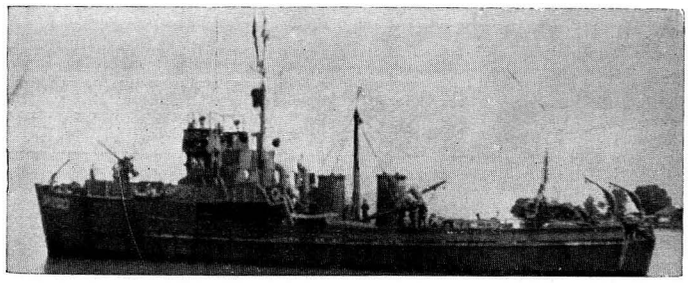
6 Ex-U.S.S.R. "T 43" Type

BAHAIRA **CHARKIEH** **GHARBIA** **MINIYA**

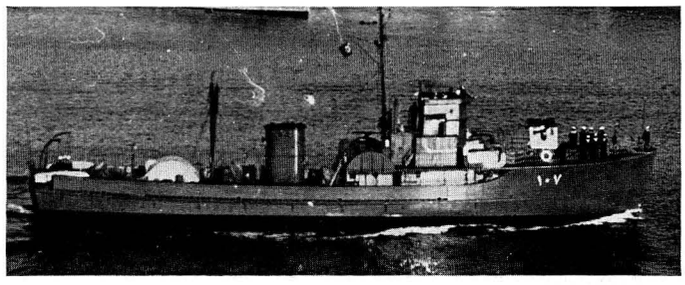
Displacement:	410 tons *standard* (530 tons *full load*)
Dimensions:	200 × 27¼ × 9 feet
Guns:	4—37 mm. AA.
Machinery:	Diesel=18 kts.

Notes
Four reported to have been transferred from the Soviet Navy and delivered to Egypt in 1956, and two others later.

COASTAL MINESWEEPERS



ARISH *Official*



DARFOUR 1951, *A. & J. Pavia*

8 Ex-U.S. BYMS Type

ARISH (ex-*BYMS* 2028)
DARFOUR (ex-*BYMS* 2041)
KAISARIA (ex-*BYMS* 2075)
KORDOFAN (ex-*BYMS* 2212)
MALEK FUAD (ex-*BYMS* 2035)
NAHARIA (ex-*BYMS* 2069)
RAFAH (ex-*BYMS* 2149)
TOR (ex-*BYMS* 2175)

Displacement:	215 tons *standard* (270 tons *full load*)
Dimensions:	136 (*o.a.*) × 24½ × 6 feet
Guns:	1—3 inch (except *Rafar* and *Tor*), 2—20 mm. AA.
Machinery:	Diesel. B.H.P.: 1,000 =13 kts.
Oil fuel:	16 tons

Notes
All single-funnelled except *Arish*, which has 2 funnels as shown. One named *Gaza* (ex-*BYMS* 2013) was lost on 26 July 1950, as a result of fuel-tank explosion off Mersa Matruth.

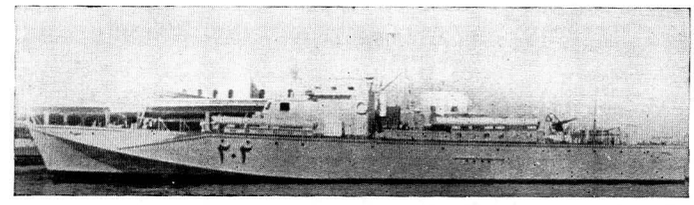
TANK LANDING CRAFT

No. 1	**No. 4**	**No. 7**	**No. 10**	**No. 13**	**No. 17**
No. 2	**No. 5**	**No. 8**	**No. 11**	**No. 14**	**No. 18**
No. 3	**No. 6**	**No. 9**	**No. 12**	**No. 16**	**No. 19**

Displacement:	22 tons *light* (35 tons *loaded*)
Machinery:	Speed=11 kts.

Notes
Of *LCM* type. (The tank landing ship *Aka* (ex-LST 178) was sunk as a block-ship near Lake Timsah in the Suez Canal on 1 Nov., 1956.)

MOTOR TORPEDO BOATS



EL NASER 1955, *Egyptian Navy, Official*

2 Ex-British "D" Type

EL NASER **EL ZAFER**

Displacement	100 tons
Dimensions:	115 × 21¼ × 5 feet
Guns:	Several light AA.
Tubes:	4—18 inch tubes
Machinery:	4 Packard engines. B.H.P.: 5,000=27·5 kts.
Complement:	30

Notes
Fairmile "D" type. Acquired from Great Britain. Reported to be earmarked for disposal.

40 Ex-Russian "PA" Type

Displacement:	50 tons
Dimensions:	85½ × 20 × 6 feet
Guns:	4—25 mm. AA. M.G.
Tubes:	2—21 inch
Machinery:	Speed=42 kts.

Notes
The first twelve boats were reported to have arrived at Alexandria on 19 Apr. 1956. Two E-boats were destroyed by British naval aircraft on 4 Nov. 1956.

6 Ex-Yugoslavian Type

Displacement:	56 tons *full load*
Dimensions:	78 × 20⅔ × 5½ feet
Guns:	1—40 mm. AA.
Tubes:	4
Machinery:	3 Packard motors. 3 shafts. B.H.P.: 4,500=35 kts.
Complement:	17

Notes
Purchased from Yugoslavia in 1956. Similar to U.S. Higgins boats. May be new, copied from U.S. boats, or may be old U.S. boats reconditioned.

MOTOR LAUNCHES

3 Ex-British "B" Type

HAMZA (ex-*ML* 134) **SAB EL BAHR** **SAKER EL BAHAR**

Displacement:	65 tons
Dimensions:	112 × 18½ × 4⅔ (*max*). feet
Guns:	1—40 mm., 2—20 mm. AA.
Machinery:	2 Hall-Scott Defender engines. 2 shafts. B.H.P.: 1,200=19 kts.

Notes
Fairmile "B" Type. Acquired from Great Britain. Reported that there are now only three Fairmile motor launches in the Egyptian Navy. These are said to be Nos. 251, 252 and 253. Two reported to have been sunk.

TRANSPORT

EL QUSEIR (ex-*El Amira Fawzia*)

Displacement:	2,640 tons
Dimensions:	275 × 36 × 14 feet
Guns:	2—3 pdr.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,130=14 kts.
Boilers:	2 S.E. (working pressure, 180 lb.). Oil fuel
Complement:	79

Notes
Built by Swan, Hunter & Wigham Richardson, Ltd., Wallsend. Launched on 8 July 1929. Mercantile type. Fitted as transport for 400 men and 40 horses. Normally employed on coasting service carrying passengers. Pennant No. 91.

YACHTS

NTISAR (ex-*Fakhr el Bihar*)
Displacement: 1,069 tons

Notes
The British Admiralty tanker *Eaglesdale* was purchased by Misr Tankers Limited, of Cairo, in Dec. 1959.

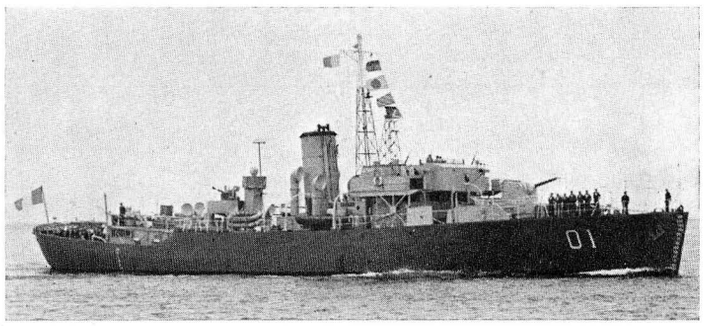
EL HORRIA (ex-*Mahroussa*)

Displacement:	4,561 tons
Dimensions:	400 (*pp.*), 420 (*w.l.*) 477⅔ (*o.a.*) × 42⅔ × 17½ feet
Machinery:	3 Parsons turbines. 3 shafts. S.H.P.: 5,500=16 kts.
Boilers:	5 main and 1 auxiliary Inglis multi-tubular
Oil fuel:	346 tons
Complement:	179 + 59 midshipmen

Notes
Built of iron by Samuda Bros., Poplar. Launched in 1865. Reconstructed by A. & J. Inglis, Glasgow, and re-boilered 1905, and refitted in 1946-47 at Malta Dockyard. Re-constructed 1949-50 at Odero-Terni, Muggiano, at a cost of over £1,250,000. Former Royal Yacht. Offered for sale in 1954, but visited Great Britain as a midshipmen's training ship, May-June, 1955.

EIRE

CORVETTES



MACHA — *Added 1962, Official*

3 Ex-British " Flower " Class

CLIONA (ex-H.M.S. *Bellwort*) **MACHA** (ex-H.M.S. *Borage*) **MAEV** (ex-H.M.S. *Oxlip*)

Displacement:	1,020 tons *standard* (1,280 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 33 × 14½ feet
Guns:	1—4 inch, 1—2 pdr., 2—20 mm. AA.
A/S weapons:	Hedgehog, 2 D.C. racks
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts. (designed), best sea speed now 10 to 14 kts.
Boilers:	2 S.E.
Oil fuel:	230 tons
Complement:	78

Notes
Formerly British " Flower " class corvettes. Purchased from Great Britain in 1946. The lattice mast was stepped in 1953. *Cliona* and *Macha* were built by George Brown & Co. (Marine) Ltd., Greenock and *Maev* by A. & J. Inglis Ltd., Pointhouse, Glasgow. *Cliona* and *Maev* underwent structural alterations in 1958 and 1959 respectively.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
03	*Cliona*	17 Sep. 1940	11 Aug. 1941	26 Nov. 1941
01	*Macha*	21 Nov. 1940	6 Nov. 1941	29 Apr. 1942
02	*Maev*	9 Dec. 1940	28 Aug. 1941	28 Dec. 1941

TENDERS

JOHN ADAMS

Measurement:	94 tons *gross*
Dimensions:	85 × 18½ × 7 feet
Machinery:	Diesel. B.H.P.: 125=8 kts.

Notes
Built by Richard Dunston, Ltd., Thorne, Doncaster, Yorks. Launched in 1934.

GENERAL McHARDY

Measurement:	100 tons *gross*
Dimensions:	76½ × 18 × 9½ feet
Machinery:	Compound reciprocating. I.H.P.: 200=9 kts.

Notes
Built by Philip & Son, Ltd., Dartmouth, Devon. Launched in 1928. Ferry tender.

WYNDHAM

Measurement:	93 tons *gross*
Dimensions:	85 × 16½ × 8 feet
Machinery:	Compound reciprocating. I.H.P.: 200=9 kts.

Notes
Built by Cox, Falmouth. Launched in 1903. Ferry tender and general utility craft.

EL SALVADOR

Administration

Commander of the El Salvadorian Navy: Major Francisco Cañas

Personnel

1962: 100 officers and ratings. There is also a small marine corps.

PATROL BOATS

GC 1 (*ex-Fle-Ja-Lis*) **GC 2** (ex-*Nohaba*)

Dimensions:	Length: 72 feet
Guns:	1—20 mm.
Complement:	16

Notes
Former British HDML type. Purchased from commercial sources in 1959.

ETHIOPIA

Administration

The Imperial Ethiopian Navy is organised as one of the three Armed Services under the Chief of Staff Imperial Armed Forces. The Deputy Commander of the Imperial Ethiopian Navy has his Naval Headquarters in Addis Ababa.

Deputy Commander of the Imperial Ethiopian Navy:
Commander H.I.H. Prince Alexander Desta
Chief Naval Adviser:
Captain K. Brekke, R.No. N.

Personnel

There has been a considerable increase in the numbers of personnel, and the following figures were officially stated in 1962:
120 National officers. 550 National Enlisted men.

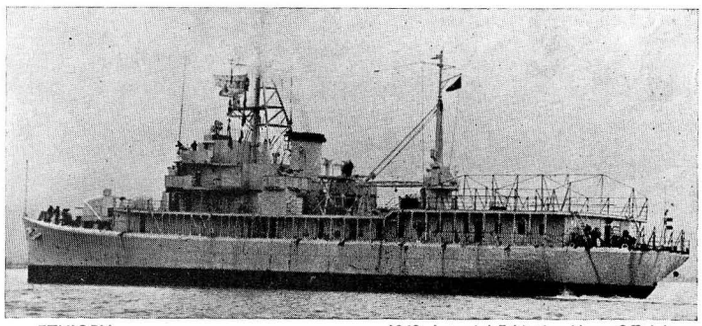
Ethiopia—*continued*

Imperial Ethiopian Navy

The Imperial Ethiopian Navy was founded in 1955. It is being trained by Norwegian officers.

At " Haile Selassie I " Naval Base in Massawa are the Naval College, established in 1956, the Naval N.C.O. School, established in 1957, a Frogman/Diving School for the training of a special Commando Unit, and Ratings' Training Establishment. Workshops and other Base facilities are under construction.

TRAINING SHIP



ETHIOPIA — *1962, Imperial Ethiopian Navy, Official*

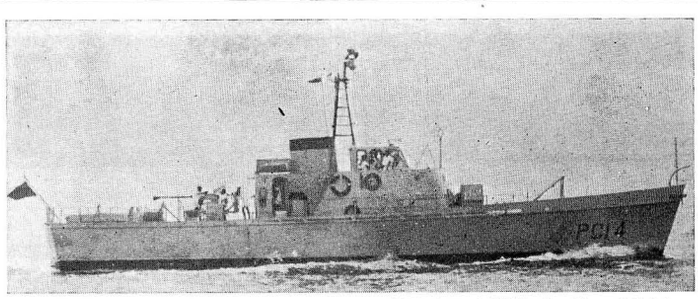
ETHIOPIA (ex-U.S.S. *Orca*, *AVP 49*)

Displacement:	1,766 tons *standard* (2,800 tons *full load*)
Dimensions:	300 (*w.l.*), 310¾ (*o.a.*) × 41 × 13½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 5—40 mm. AA. (but guns vary)
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 6,080=18·2 kts.
Complement:	215

Notes
Former United States seaplane tender. Built by Lake Washington Shipyard, Houghton. Wash. Laid down 13 July 1942, launched on 4 Oct. 1942 and completed on 23 Jan. 1944. Transferred from the U.S. Navy to the Imperial Ethiopian Navy at the end of 1961. She will serve as a training ship. Pennant No. A 01.

Recent Disposal
It was officially stated that the Imperial Yacht *Brioni* was returned to Yugoslavia in Feb 1959.

PATROL BOATS



P C 14 — *1962, Imperial Ethiopian Navy, Official*

PC 11 (ex-U.S.C.G. *WVP* 95304)
PC 12 (ex-U.S.C.G. *WVP* 95310)
PC 13 (ex-U.S.N. *PGM* 53)
PC 14 (ex-U.S.N. *PGM* 54)
PC 15 (ex-U.S.N. *PGM* 58)

Displacement:	101 tons
Dimensions:	95 (*o.a.*) × 19 × 5 feet
Guns:	1—40 mm. AA.
Machinery:	4 diesels. 2 shafts. B.H.P.: 2,200=21 kts.
Radius:	1,500 miles at cruising speed
Complement:	15

Notes
WVP 95304 and WVP 95310 are former United States Coast Guard Cutters. Transferred to the Imperial Ethiopian Navy from the U.S. Navy under the Mutual Defense Assistance Program in 1958. Ex-*PGM* 53 and ex-*PGM* 54 are motor gunboats of the same 95 ft. United States Coast Guard type built by Petersen Builders for transfer under the Military Aid Programme in July and Aug. 1961. Ex-*PGM* 58 was to be transferred to the Imperial Ethiopian Navy under the Military Aid Programme in June 1962. All are steel-hulled and twin screwed.

MOTOR TORPEDO BOATS

BARRACUDA P 22 **SHARK** P 21

Displacement:	60 tons
Dimensions:	69 (*pp.*), 78 (*o.a.*) × 21½ × 7 feet
Guns:	1—40 mm. AA., 2—12·7 mm. M.G.
Tubes:	2
Machinery:	3 Packard petrol motors. Speed: 40 kts.
Complement:	17

Notes
Former Yugoslavian motor torpedo boats built late in 1951. Transferred and received by Ethiopia in Jan. 1960, and given fish names.

LANDING CRAFT

Notes
It was officially stated in Feb. 1962 that one U.S. LCM type and one U.S. LCVP type have been acquired.

FINLAND

Administration

Commander-in-Chief, Finnish Navy:
Rear Admiral Keiviste

Naval Attache in London:
Captain M. H. Salminen, F.N.

The Finnish Navy is limited by treaty with Russia to 10,000 tons and 4,500 personnel, including Coast Guard and Coast Artillery. Submarines and motor torpedo boats are prohibited.

Personnel

1962: 1,200 officers and ratings

Mercantile Marine

Lloyd's Register of Shipping:
334 vessels of 714,483 tons *gross*

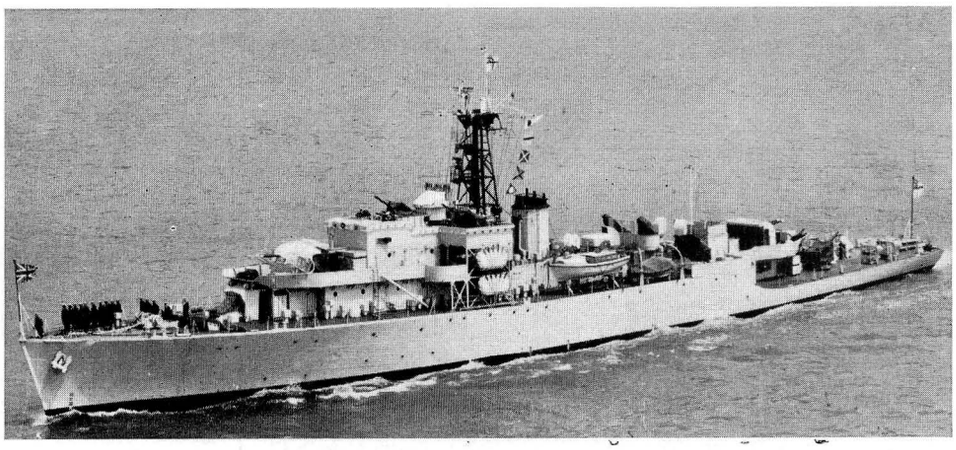
FRIGATE TRAINING SHIP (*Fregatti Koululaiva*)

1 Ex-British "Bay" Class

(ex-*Porlock Bay*, ex-*Loch Seaforth*, ex-*Loch Muick*)

Builders:	Charles Hill & Sons, Ltd., Bristol
Laid down:	22 Nov. 1944
Launched:	14 June 1945
Completed:	8 Mar. 1946
Displacement:	1,580 tons *standard* (2,420 tons *full load*)
Dimensions:	286(*p.p.*), 307½ (*o.a.*) × 38½ × 15½
Guns:	6—40 mm. AA.
A/S Weapons:	1 Squid
Machinery:	Triple expansion, 2 shafts, I.H.P.: 5,500=19 kts.
Boilers:	2 Admiralty 3 drum
Oil fuel:	724 tons
Radius:	9,500 miles at 12 kts.

Notes
Former British frigate of the "Bay" class. Transferred from the Royal Navy to the Finnish Navy in March 1962.
It is officially stated that the construction of the projected new frigate training ship (see full particulars and silhouette elevation drawing in the 1960-61 and 1961-62 editions) is postponed.



PORLOCK BAY — 1962, *Official*

COASTAL MINELAYERS (*Miinalaivat*)

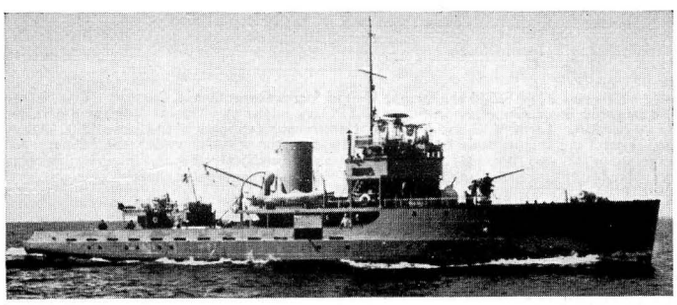


KEIHÄSSALMI — 1960, *Finnish Navy, Official*

KEIHÄSSALMI

Displacement:	360 tons (officially revised figure)
Dimensions:	183¾ × 25½ × 6 feet
Guns:	2—40 mm. AA.; 2—20 mm. AA.
Mines:	100
Machinery:	2 M.A.N. diesels, 2 shafts. B.H.P.: 1,600=15 kts.
Complement:	60

Notes
A coastal minelayer of improved "Ruotsinsalmi" type built at Valmet Oy Shipyard, Helsinki under contract dated June 1955. Launched on 16 Mar. 1957.



RUOTSINSALMI — 1957, *Official*

OTSINSALMI

Displacement:	310 tons (officially revised figure)
Dimensions:	164½ × 26 × 5 feet
Guns:	2—40 mm. AA., 2—20 mm. AA.
Mines:	100
Machinery:	2 Rateau diesels. 2 shafts. B.H.P.: 1,120=15 kts.
Complement:	60

Notes
Built by Hietalahden, Laiv. Laid down in 1937. Launched in May 1940. Completed in Feb. 1941.

FAST PATROL BOATS (*Nopeat vartioveneet*)



NUOLI 1 — 1962, *Finnish Navy, Official*

9 New Construction

NUOLI 1 **NUOLI 2** **NUOLI 3** **NUOLI 4** **NUOLI 5** **NUOLI 6** **NUOLI 7** **NUOLI 8** **NUOLI 9**

Displacement:	45 tons
Dimensions:	72¼ × 21⅔ × 5 feet
Guns:	1—40 mm., 1—20 mm. A.A.
Machinery:	3 diesels, B.H.P.:2,700=40 kts.

Notes
Designed and built by Suomen Laivateollisuus Oy, Turku. First four were launched in 1961. Five more are under construction.



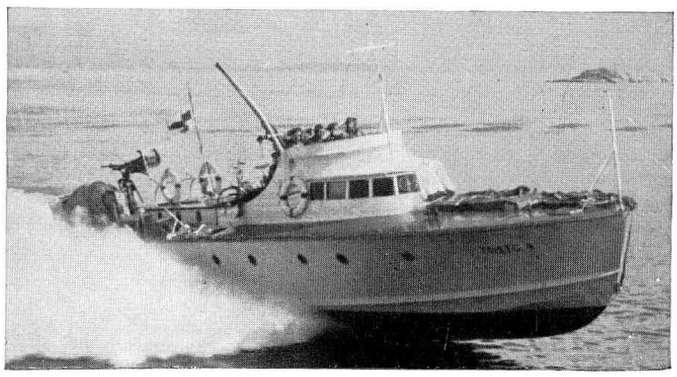
VASAMA — 1957 *Official*

VASAMA 1 **VASAMA 2**

Displacement:	70 tons
Dimensions:	67 (*pp.*), 71½ (*o.a.*) × 19½ × 6 feet
Guns:	2—40 mm. AA.
Machinery:	2 Napier Deltic diesels. B.H.P.: 5,000=42 kts.
Complement:	13

Notes
Two fast patrol boats of the British "Dark" class built by Saunders Roe (Anglesey) Ltd., Beaumaris, England, in 1955-57.

Fast Patrol Boats—*continued*



TAISTO 4 1957, *Official*

TAISTO 2 **TAISTO 4** **TAISTO 6** **TAISTO 8**
TAISTO 3 **TAISTO 5** **TAISTO 7**

Displacement: 22 tons
Dimensions: 59 × 15½ × 5 feet
Guns: 1—40 mm., 1—20 mm.
Machinery: Speed: 42 kts.

Notes
All launched in 1943. Ex-M 2-8. Designed and built under Italian licence by Turun Veneveistämo, Finland.



HURJA 4 1957, *Official*

HURJA 1 **HURJA 2** **HURJA 3** **HURJA 4** **HURJA 5**

Displacement: 20 tons
Dimensions: 55¾ × 14 × 4 feet
Guns: 1—40 mm., 1—20 mm.
Machinery: 2 Isotta Fraschini engines. B.H.P.: 1,500=40 kts.

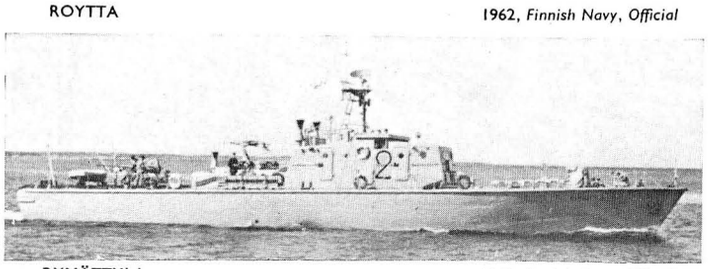
Notes
Former Italian fast patrol boats. All designed and built by Cantieri, Baglietto Varazze, Italy, in 1941.

Recent Disposals
The old fast patrol boats *Jussi* 1, *Jussi* 2, *Jussi* 3 and *Jussi* 4, formerly MAS 526, MAS 527, MAS 528 and MAS 529, were officially stricken from the list in 1961.

INSHORE MINESWEEPERS (*Raivaajat*)



ROYTTA 1962, *Finnish Navy, Official*



RYMÄTTYLA 1960, *Finnish Navy, Official*

5 "R" Class

RAISIO **RIHTNIEMI** **RÖYTTÄ** **RUISSALO** **RYMÄTTYLÄ**

Displacement: 110 tons (officially revised figure), 130 tons *full load*
Dimensions: 108⅔ × 18⅓ × 6 feet
Guns: 1—40 mm. Bofors, 1—20 mm. Masden.
Machinery: 2 Mercedes-Benz diesels. B.H.P.: 1,400=15kts.

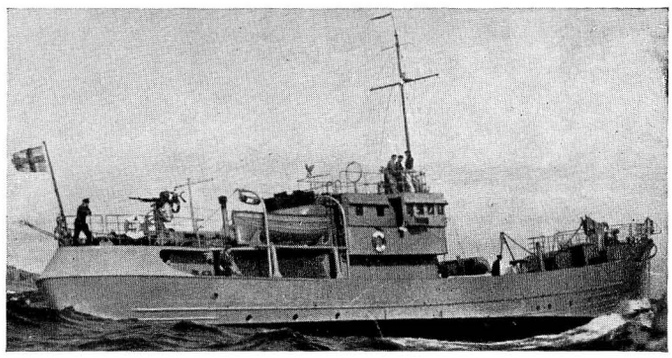
Notes
Rihtniemi and *Rymättyla* were ordered in July 1955 and launched in 1956. Built by Rauma-Repelo Oy, Shipyard, Rauma, Finland. Delivered on 20 May 1957. Variable pitch propellers. *aisio, Röyttä* and *Ruissalo* were built by Laivateollisuus, Turku in 1959.

COAST GUARD PATROL VESSELS (*Vartioalukset*)

UISKO

Displacement: 350 tons (officially revised figure)
Dimensions: 130 × 22 × 13 feet
Machinery: B.H.P.: 1,800=14 kts.

Notes
A new coast guard patrol vessel built by Valmet Oy, Helsinki, in 1959



TURSAS *Added* 1954, *Official*

TURSAS

Displacement: 360 tons
Dimensions: 131½ × 23½ × 14 feet
Guns: 1—3 inch, 1—40 mm. AA., 2—20 mm. AA.
Machinery: Diesel. B.H.P.: 620=12 kts.

Notes
Built by Crichton-Vulkan. Launched in 1933. Coast Guard vessel under the Ministry of the Interior

AURA

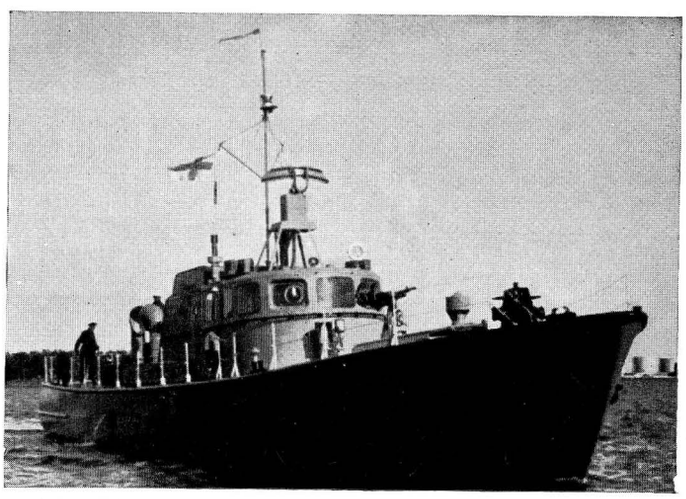
Displacement: 350 tons
Dimensions: 128 × 23 × 11½ feet
Guns: 1—3 inch, 2—20 mm. AA.
Machinery: Triple expansion. I.H.P.: 700=10 kts.

Notes
Launched in 1907. This vessel belongs to the Coast Guard, which is under the Ministry of the Interior.

Recent Disposa s
The *Merikotka* was officially deleted from the list in 1960.

Recent Disposals (Coastal Minesweepers)
Of the four ex-U.S. BYMS type coastal minesweepers, *Iammenpää* and *Vahterpää* were sold for scrap in 1958, *Purunpää* was discarded as unfit for further service in 1959, and *Katanpää* was scrapped in 1960.

Motor Patrol Boats (*Vartiomoottoriveneet*)



KOSKELO 1957, *Official*

8 "Koskelo" Class

KAAKKURI **KOSKELO** **KUOVI** **TELKKÄ**
KIISKI **KUIKKA** **KURKI** **TAVI**

Displacement: 75 tons *standard* (97 tons *full load*)
Dimensions: 96½ × 16½ × 3½ feet
Guns: 2—20 mm. AA.
Machinery: 2 Mercedes-Benz diesels. 2 shafts B.H.P.: 1,000=16 kts.
Complement: 8

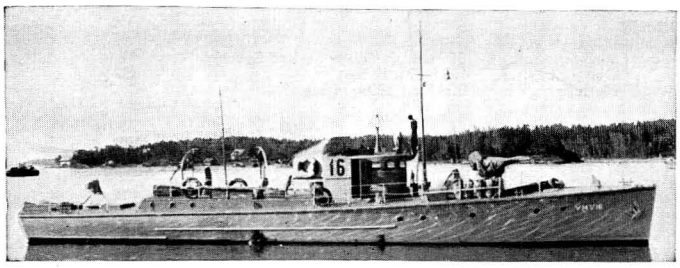
Notes
Built of steel and strengthened against ice. *Koskelo* and *Kuikka* were completed in 1956. Remaining six were completed in 1958-60.

VMV 19 **VMV 20**

Displacement: 35 tons (officially revised figure)
Dimensions: 69 × 13½ × 4 feet
Guns: 1—20 mm.
Machinery: Speed: 11 kts.

Notes
Built in Finland. Launched in 1943. Ex-Motor launches *SP* 41, 42. *VM* 18 (ex-*SP* 1) was stricken from the list in 1958.

Coast Guard Patrol Vessels—*continued*



VMV 16 *Official*

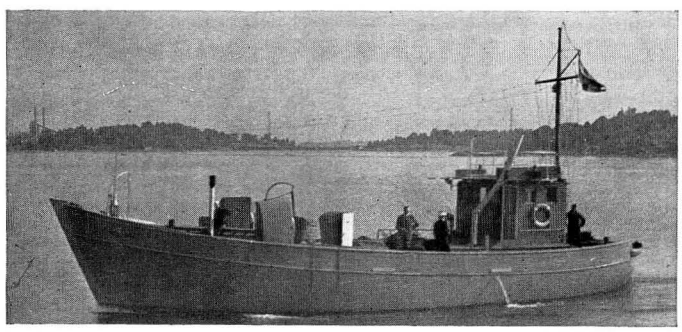
VMV 11 **VMV 13** **VMV 15** **VMV 16**

Displacement:	35 tons (officially revised figure)
Dimensions:	82 × 13¾ × 3¼ feet
Guns:	1 –20 mm.
Machinery:	Semi-Diesel. B.H.P.: 1,220=25 kts.
Complement:	9

Notes
Built in Finland. Launched in 1935. All the above *VMSs* belong to the Coast Guard which is under the Ministry of the Interior.

Recent Disposals
VMV 1 *VMV* 2 were sold in 1952. *VMV* 5 was scrapped in 1958. *VMV* 6 was scrapped in 1960 and *VMV* 9 in 1961, it is officially stated.

MOTOR MINESWEEPING BOATS (*Raivaajat*)



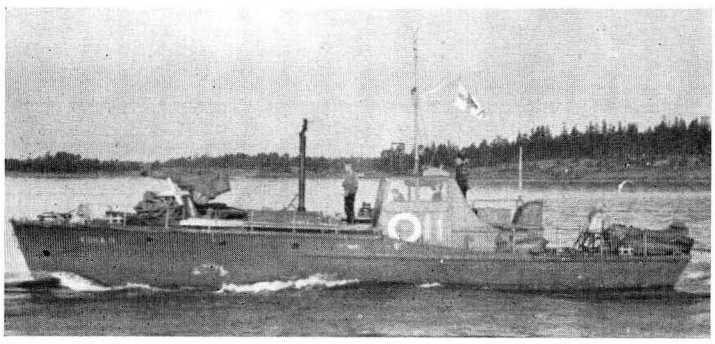
KALLANPÄÄ 1955, *Official*

KALLANPÄÄ

Displacement:	50 tons (officially revised figure)
Dimensions:	65⅜ × 16⅜ × 3¼ feet
Guns:	1—20 mm.
Speed:	9 kts.

Notes
Built in Denmark. Launched in 1944. Shallow draught. Fitted for magnetic minesweeping.

Recent Disposals.
Sister ship *Ajonpää* was scrapped in 1959.



KUHA 11 *Finnish Navy, Official*

11 "Kuha" Class

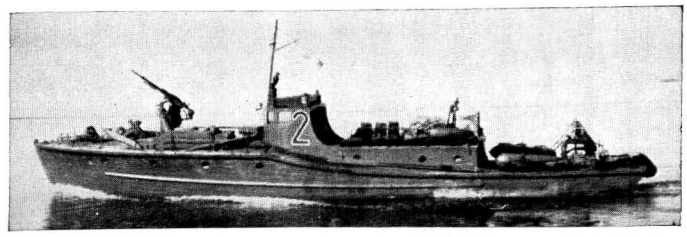
KUHA 2 **KUHA 8** **KUHA 13** **KUHA 15** **KUHA 18**
KUHA 5 **KUHA 12** **KUHA 14** **KUHA 16** **KUHA 17**
KUHA 7

Displacement:	18 tons
Dimensions:	56 × 12½ × 5 feet
Guns:	1—20 mm.
Machinery:	Speed: 9 kts.

Notes
Small, shallow draught, inshore minesweepers. Built in Finland. Launched during 1941-45.

Recent Disposals.
Kuha 1, *Kuha* 4 and *Kuha* 9 were scrapped in 1959-60, and *Kuha* 10 and *Kuha* 11 were scrapped in 1961.

Motor Minesweeping Boats—*continued*



AHVEN 2 1946, *Official*

4 "Ahven" Class

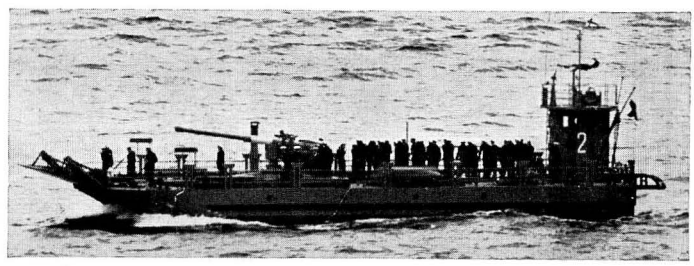
AHVEN 2 **AHVEN 3** **AHVEN 4** **AHVEN 6**

Displacement:	17 tons
Dimensions:	56½ × 12 × 4¼ feet
Machinery:	H.P.: 60=10·5 kts.
Complement:	8

Notes
Small, shallow draught, inshore minesweepers. Built at Turun Veneveistamo Yard. Launched in 1936-37.

Recent Disposals
Ahven 1 and *Ahven* 5 of this class were scrapped in 1961, it is officially stated.

LANDING CRAFT (*Kuljetusalukset*)



KALA 2 1959, *Official*

Rated as Transport Craft

KALA 1 **KALA 2** **KALA 3** **KALA 4** **KALA 5** **KALA 6**

Displacement:	60 tons
Dimensions:	76¾ × 26¼ × 6 feet.
Machinery:	2 diesels. B.H.P.: 370=9 kts.

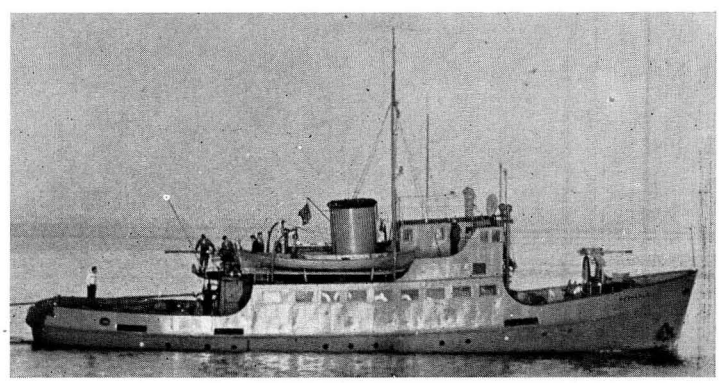
Notes
Launched in 1956. Completed in 1959. Of LCU (utility landing craft) type. Officially classed as transport craft.

LONNA **SEILI**

Displacement:	180 to 200 tons
Dimensions:	100 feet length
Guns:	1—4·1 inch (105 mm.) Cmex. Obuchov
Machinery:	Speed=10 kts.

Notes
Former German MFP type landing craft converted and armoured. Launched in 1942.

TRANSPORT CRAFT (*Kuljetusalukset*)



PORKKALA 1962, *Finnish Navy, Official*

3 "Pansio" Class

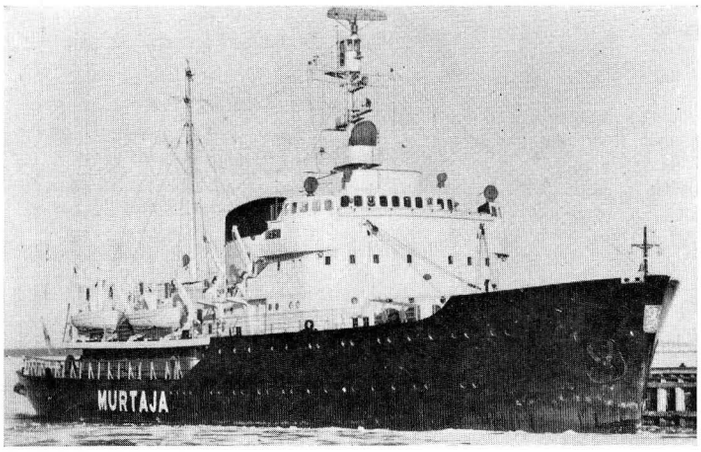
PANSIO (1947) **PORKKALA** (1940) **PUKKIO** (1929)

Displacement:	162 tons
Dimensions:	92 × 21½ × 9 feet
Guns:	1—40 mm., 1—20 mm. AA.
Machinery:	Diesel. B.H.P.: 300=10 kts.

Notes
Built at Naval Dockyard, Helsinki. Launch dates above. Vessels of the tug type used as transports, minesweeping tenders, minelayers and patrol vessels. Can carry 20 mines.

Training Ship Notes
It was officially stated in 1960 that the training ship *Suomen Joutsen* (ex-*Oldenburgh*, ex-*Laennec*) has been converted into a stationary seamen's school ship, and sold to the Finnish Mercantile School.

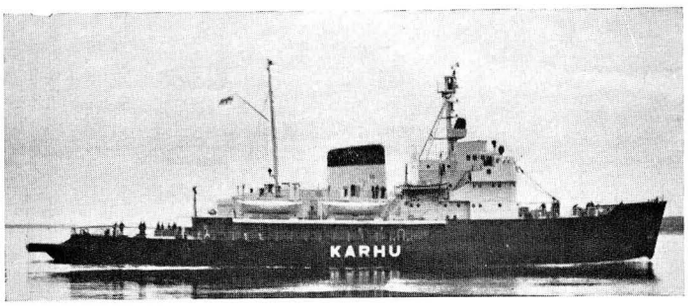
ICEBREAKERS (*Jäänmurtajat*)



MURTAJA 1962, *Finnish Navy, Official*

1 New Construction

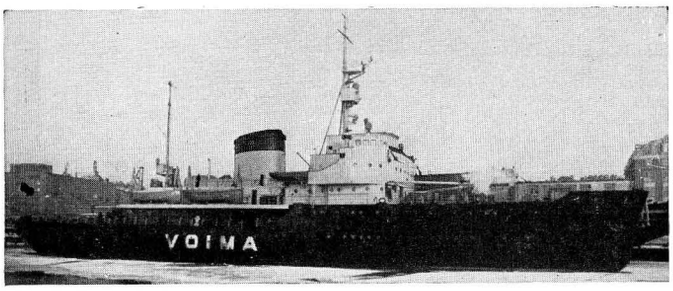
Notes
The Finnish Navy is to build a new icebreaker which will be a larger vessel of the " Voima " type. Construction is expected to be completed in 1963.



KARHU 1959, *Official*

	KARHU	MURTAJA	SAMPO
Displacement:	3,370 tons (officially revised figure)		
Dimensions:	243½ × 57 × 20 feet		
Machinery:	Diesel-electric. 4 shafts. B.H.P.: 7,500 = 16 kts.		

Notes
Built by Wärtsilä-yhtymä O/Y Hietalahden Laiva telakka, Helsinki. *Karhu* was launched on 22 Oct. 1957, and completed at the end of 1958. *Murtaja* was launched on 23 Sep. 1958. *Sampo* was completed in 1960.

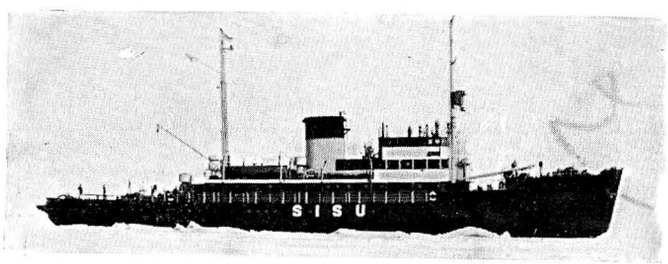


VOIMA 1954, *Finnish Navy, Official*

VOIMA

Displacement:	4,200 tons (officially revised figure)
Dimensions:	254¾ (*w.l.*), 274 (*o.a.*) × 63¾ (61½ *w.l.*) × 20½ feet
Machinery:	Diesels with electric drive. 4 shafts. B.H.P.: 14,000 = 16½ kts.
Oil fuel:	740 tons
Complement:	73

Notes
Built by Hietalahden telakka. Launched and completed in 1953. Built for deep-sea work. Two propellers forward and aft. Transferred to the Board of Navigation in 1956.



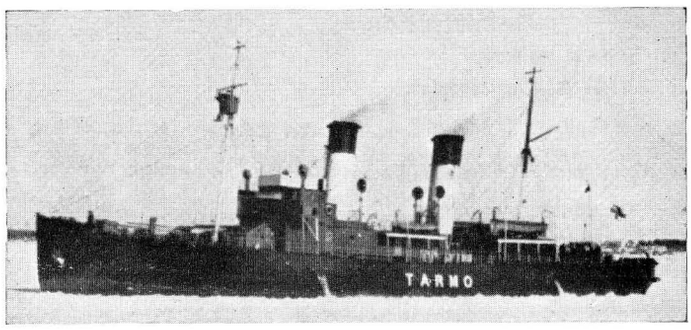
SISU 1940, *Official*

SISU

Displacement:	2,000 tons
Dimensions:	194¾ (*w.l.*), 210½ (*o.a.*) × 46½ × 16¾ feet
Guns:	2—3·9 inch AA.
Machinery:	3 sets Atlas Polar Diesels with electric drive. 2 shafts and a bow propeller. H.P.: 4,000 = 16 kts.
Complement:	100

Notes
Built by Hietalahden telakka. Launched on 24 Sep. 1938.

Icebreakers—*continued*



TARMO 1958, *Finnish Navy, Official*

TARMO (ex-*Sampo II*)

Displacement:	2,400 tons (officially revised figure)
Dimensions:	210½ (*w.l.*), 220 (*o.a.*) × 47 × 18½ feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 3,850 = 12 kts.
Complement:	43

Notes
Built by Armstrong & Co. Ltd., Newcastle-on-Tyne. Launched in 1907.

OTSO

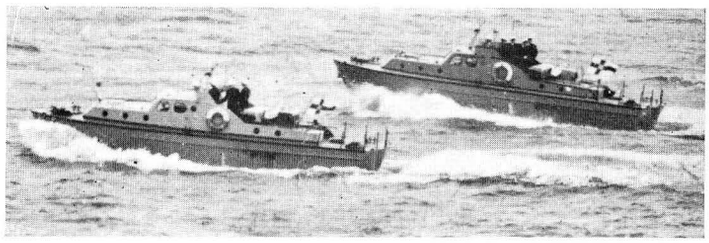
Displacement:	900 tons
Dimensions:	134½ (*pp.*), 144½ (*o.a.*) × 37½ × 16½ feet
Machinery:	Triple expansion, with bow propeller. I.H.P.: 1,860 = 13 kts.
Oil fuel:	60 tons

Notes
Launched in 1936. Belongs to the town of Helsinki. Photograph in the 1953-54 and earlier editions.

General Notes
All the above icebreakers belong to the Board of Navigation, except the *Otso*, which belongs to the town of Helsinki.

Recent Disposals
The old and less powerful icebreakers *Apu* and *Murtaja* were scrapped in Spring 1959 and 1958, respectively. The old icebreaker *Sampo* was scrapped in 1961.

MOTOR LAUNCHES



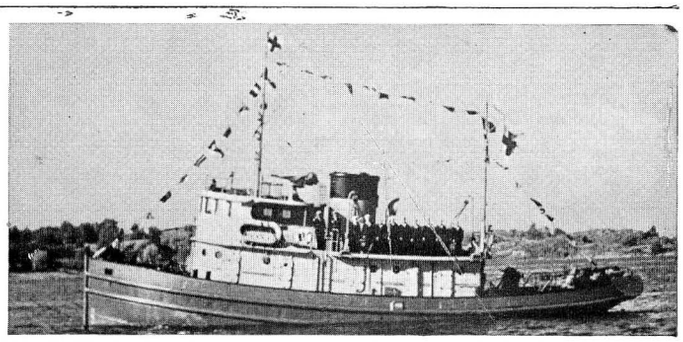
NV 1 and NV 2 1962, *Finnish Navy, Official*

NV 1 **NV 2** **NV 3** **NV 4** **NV 5** **NV 6** **NV 7** **NV 8** **NV 9** **NV 10**

Displacement:	20 tons
Machinery:	Speed = 16 kts.

Notes
New Finnish motor boats. First series *NV* 1-5 built since 1956. Second series *NV* 6-10 under construction.

TUGS (*Hinaajat*)



DR 2 1953, *Official*

PIRTTISAARI (ex-*DR* 7) **PYHTÄÄ** (ex-*DR* 2) **PURHA** (ex-*DR* 10)

Displacement:	150 tons (officially revised figure)
Dimensions:	69 × 20 × 8½ feet
Guns:	1—20 mm.
Machinery :	Speed = 8 kts.

Notes
Former United States Army Tugs. Launched in 1943-44. General purpose vessels used as minesweepers, minelayers, patrol vessels, tenders, tugs or personnel transports.
DR 2 and *DR* 7 were adapted as the Coast Artillery transports *Pyhtää* and *Pirttisaari* in 1958 and 1959, respectively

FRANCE

Administration

Chief of the Naval Staff:
Amiral G. E. J. Cabanier.

Assistant Chief of Naval Staff: (Major Général de la Marine).
Vice-Amiral d'Escarde A. Patou.

Naval Attaché in London:
Contre-Amiral J. L. Witrand.

Ships

Neither of the two surviving battleships are any longer on the effective list: they are in reserve, rated as hulks.

Personnel

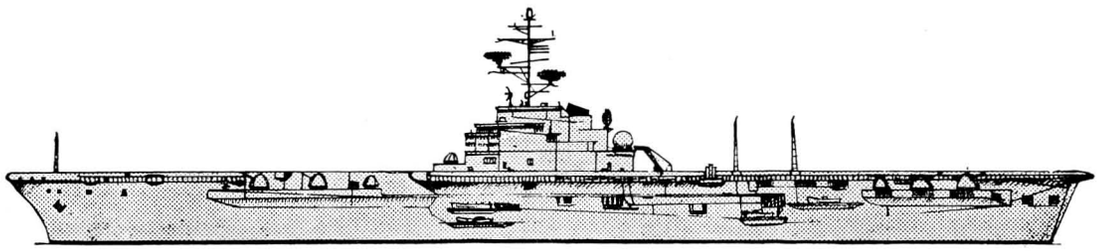
1962: 5,000 officers and 65,000 men

Mercantile Marine

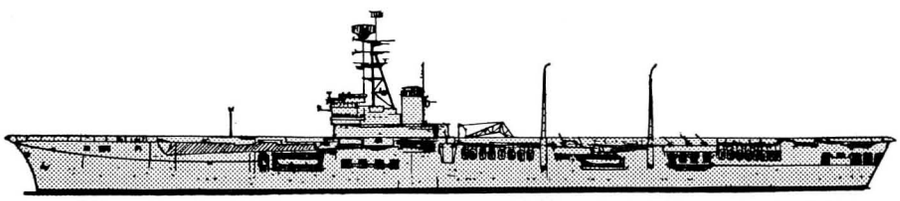
Lloyd's Register of Shipping:
1,488 vessels of 5,117,303 tons *gross*

Aircraft Carriers | **Silhouettes** | **Cruisers**

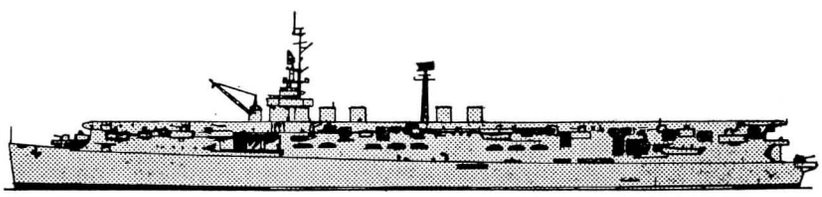
Scale: 150 feet = 1 inch



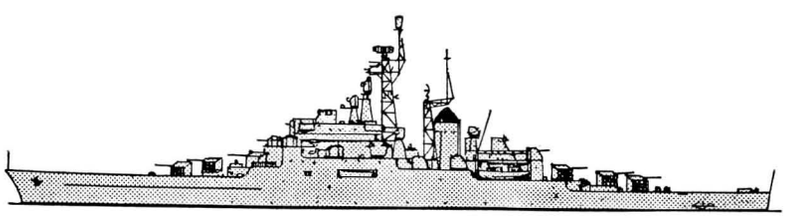
CLEMENCEAU



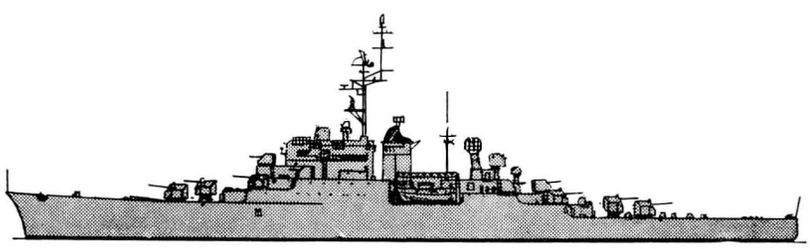
ARROMANCHES



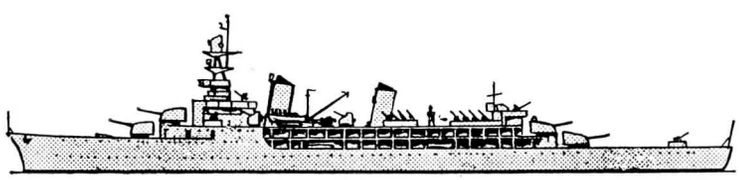
LA FAYETTE



COLBERT



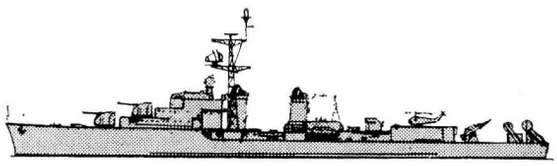
DE GRASSE (showing armanent redistributed)



JEANNE D'ARC (training ship)

Silhouettes—*continued*

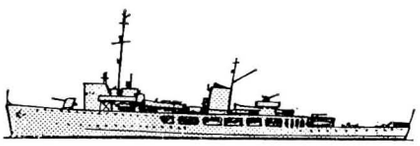
Scale: 150 ft.=1 inch



LA GALISSONNIERE



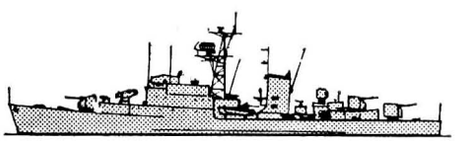
LE CORSE *Class.* E 50 Type



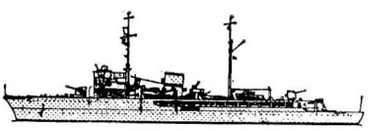
BEAUTEMPS-BEAUPRÉ *Class*



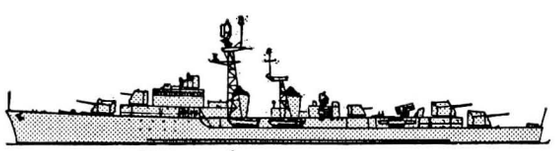
FORBIN (bridge differs slightly)



COMMANDANT RIVIÈRE



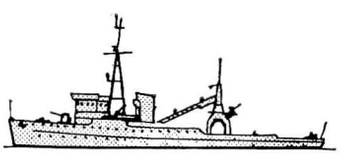
FRANCIS-GARNIER



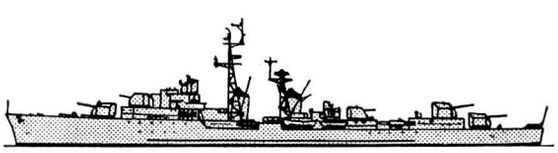
DUPERRÉ *Class.* T 53 R Type



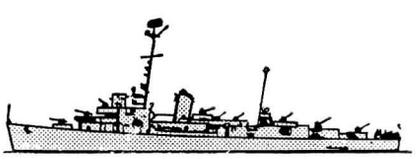
LA SURPRISE



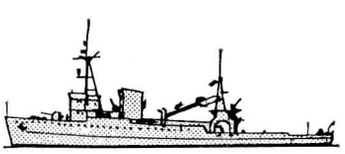
PAUL GOFFENY



SURCOUF *Class.* T 47 Type



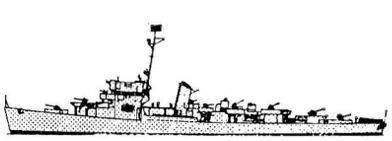
HOVA *Type*



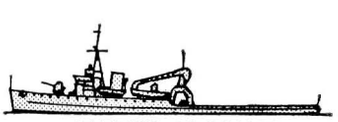
COMMANDANT ROBERT GIRAUD



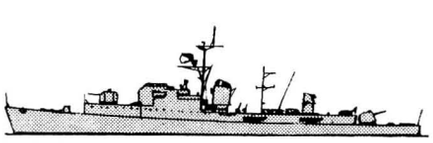
L'ALSACIEN, LE PROVENCAL



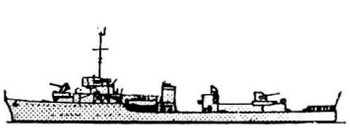
SÉNÉGALAIS *Class*



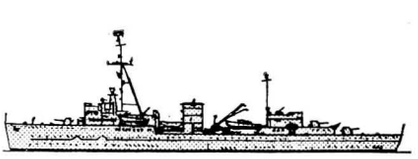
MARCEL LE BIHAN



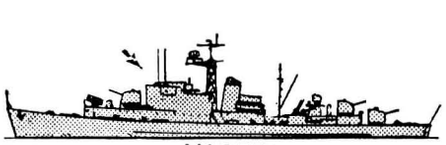
LE VENDEEN



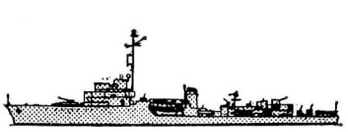
BISSON *Type*



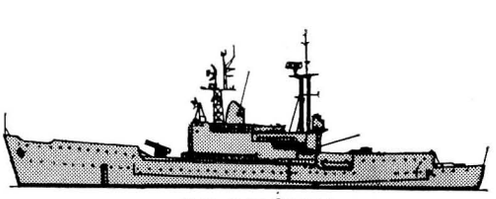
GUSTAVE ZÉDÉ



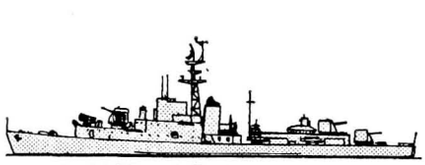
L'AGENAIS



CHAMOIS *Type*



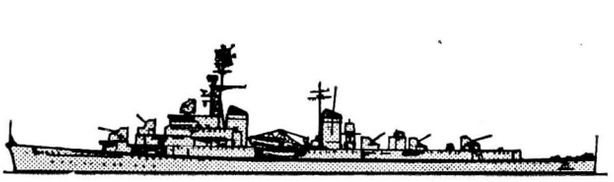
ILE d'OLÉRON



LE NORMAND *Class.* E 52 Type



ÉLAN *Class*



GUICHEN

AIRCRAFT CARRIERS (*Porte-Avions*)

2 New Construction

	CLEMENCEAU (PA 54)	**FOCH** (PA 55)
Name:	*Clemenceau*	*Foch*
Pennant No.:	R 98	R 99
Builders:	Brest	Penhoet-Loire & Brest
Laid down:	Nov. 1955	Feb. 1957
Launched:	21 Dec. 1957	18 July 1959
Completion:	22 Nov. 1961	Trials scheduled to start July 1962.
Displacement:	22,000 tons *standard* (27,307 tons *normal* 31,000 tons *full load*)	
Dimensions:	833½ (*pp.*), 845 (*o.a.*) × 96½ (*hull*) in *Clemenceau*, 104 1/12 (*hull* with bulges in *Foch*), 151 (*max.*) × 24¾ feet. See Notes.	
Guns:	8—3.9 inch (100 mm. automatic) AA. in single turrets.	
Armour:	Flight deck, hull (over machinery spaces and magazines), island superstructure and bridges	
Aircraft:	Capacity 60, including jet aircraft. Will carry 3 flights, 1 of Etendard IV, 1 of Aquilon, 1 of Breguet-Alizé	
Catapults:	2 Mitchell-Brown Steam Mk. BS .5	
Machinery:	Penhoët geared turbines. 2 shafts. S.H.P.: 126,000 = 32 kts.	
Boilers:	6	
Oil fuel:	4,000 tons	
Radius:	7,500 miles at 18 kts., 4,800 miles at 24 kts.	
Complement:	2,700 (including 179 officers)	

General Notes

These are the first aircraft carriers designed as such and built from the keel up to be completed in France. Authorised in 1953 and 1955 respectively. *Clemenceau* was ordered from Brest Dockyard on 28 May 1954 and begun in Nov. 1955. *Foch* began construction at Chantiers de l'Atlantique a St. Nazaire, Penhoet-Loire, in a special dry dock (the contract provided for the construction of the hull and propelling machinery) was being completed by Brest Dockyard.

Flight Deck Notes.

They have the angled deck incorporated, two lifts, measuring 52½ × 36 feet, one of them on the starboard deck edge, two steam catapults for aircraft up to 11 tons, and two mirror sight deck landing aids. The flight deck measures 543 × 96¾ feet and is angled at 8 degrees.

Hangar Notes.

The dimensions of the hangar are: 497⅔ × 87 × 28 feet.

Gunnery Notes

These aircraft carriers were originally to have been of the light fleet type with an armament of 24—2.25 inch guns in twin mountings, but the armament was revised to 12—3.9 inch (100 mm.) in 1956 and to 8—3.9 inch (100 mm.) in 1958. The 100 mm. guns are of a new design. Rate of fire 60 rounds per minute.

Bulge Notes

Foch has been completed with bulges, and she therefore has greater width, see above: official figures have been released. If these bulges prove to be successful during trials it is highly probable that when she undergoes her first refit *Clemenceau* will be modified similarly.

Cancellation Notes

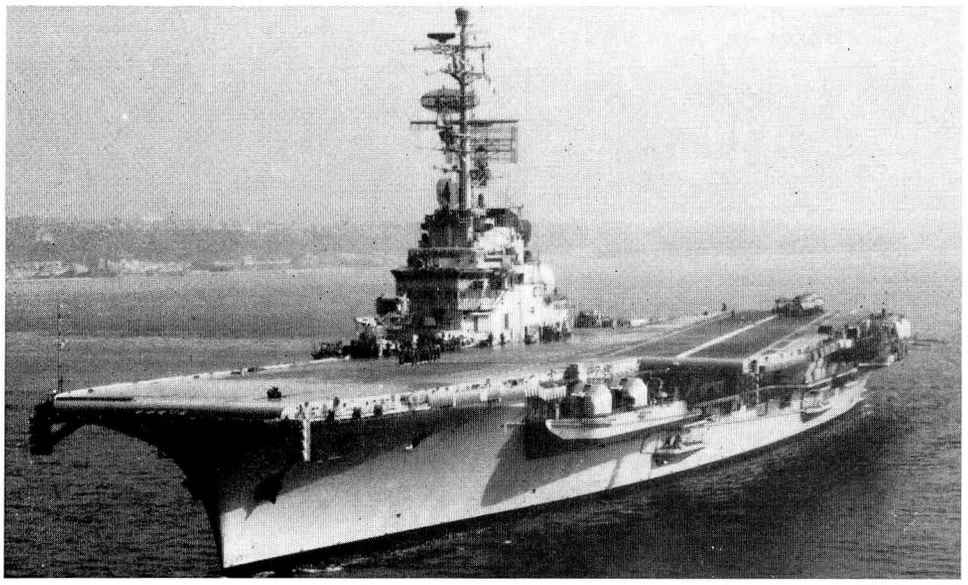
The 1958 naval estimates provided for the construction of an aircraft carrier of 30,000 tons standard displacement, but owing to the reductions in the financial vote she was not laid down.

Photograph Notes

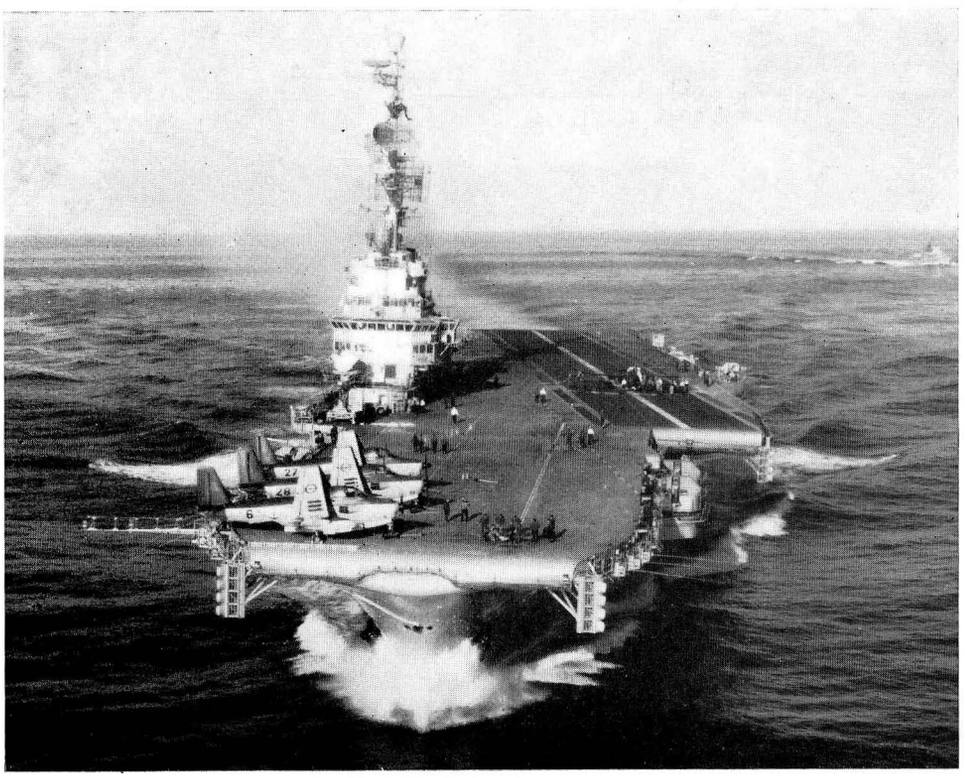
A starboard broadside view, a port bow oblique aerial view, and an overhead plan view of *Clemenceau* showing angled deck, appear in the 1960-61 and 1961-62 editions.

Note to Drawing

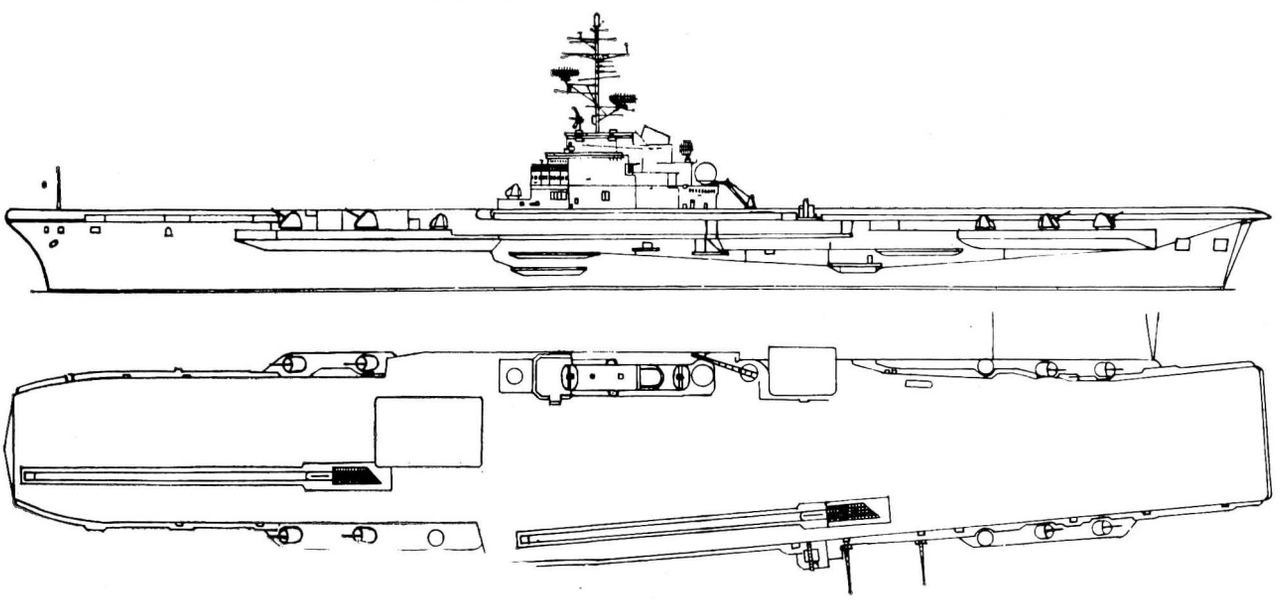
Port elevation and plan. Scale: 128 feet = 1 inch. Redrawn in 1960.



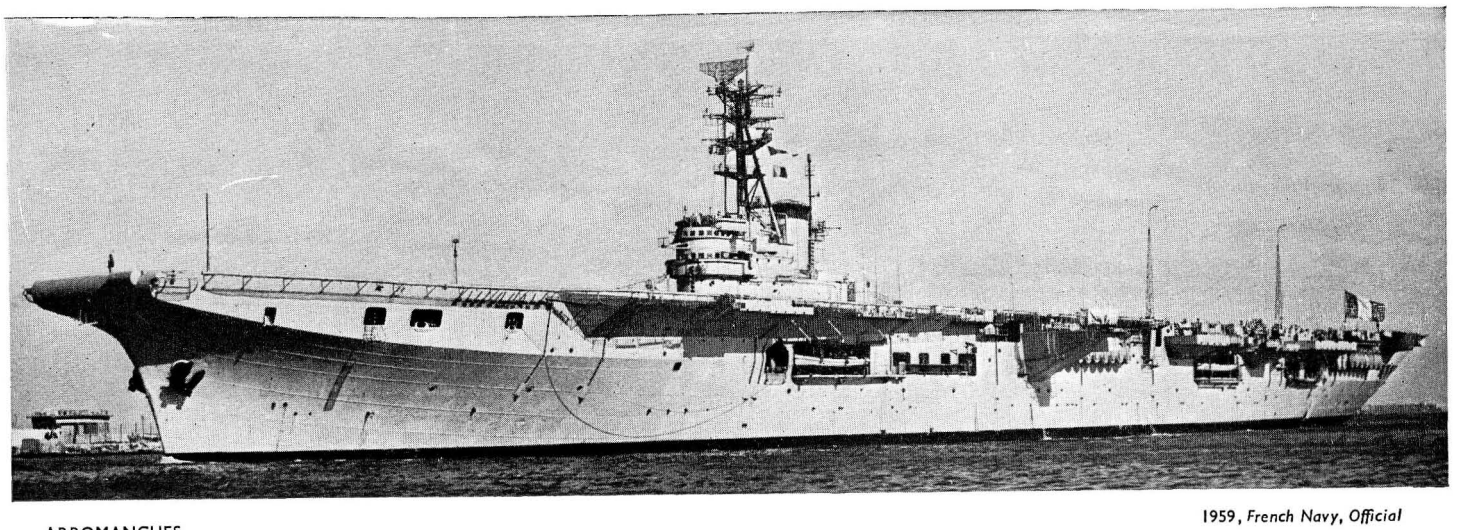
CLEMENCEAU — 1962, *French Navy, Official*



CLEMENCEAU — 1962, *French Navy, Official*

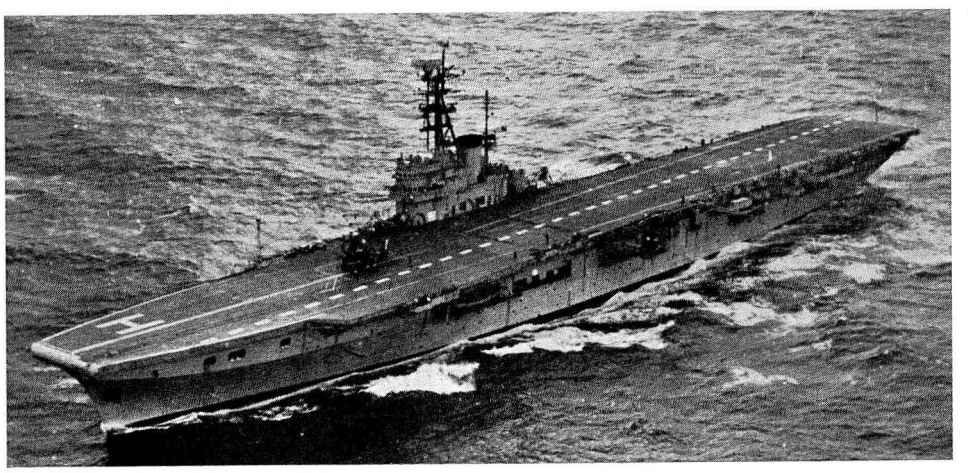


Aircraft Carriers—*continued*



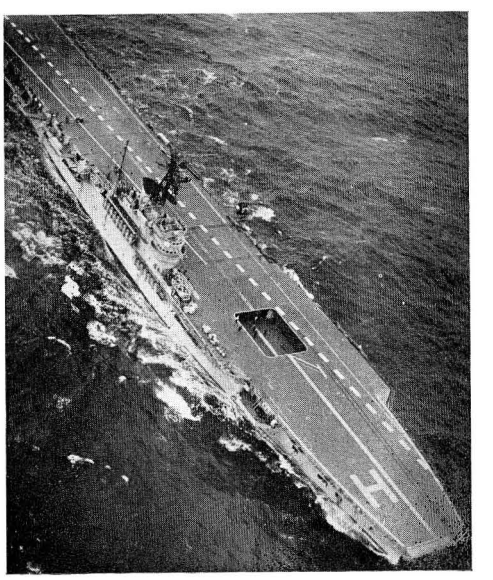
ARROMANCHES

1959, *French Navy, Official*



ARROMANCHES

1959, *French Navy, Official*



ARROMANCHES 1961, *French Navy, Official*

1 Ex-British " Colossus " Class

ARROMANCHES (ex-M.H.S. *Colosus*)

Pennant No.:	R 95
Builders:	Vickers-Armstrongs Ltd. (Tyne)
Laid down:	1 June 1942
Launched:	30 Sep. 1943
Completed:	16 Dec. 1944
Displacement:	14,000 tons *standard* (19,600 tons *full load*), officially revised figures
Dimensions:	Length: 694½ feet (*o.a.*). Beam: 80¼ feet. Width: 118 feet (*o.a.*). Draught: 23 feet
Guns:	Removed. (See *Gunnery Notes*)
Aircraft:	Capacity: 30 to 34 (24 at present). A helicopter is carried for rescue operations
Machinery:	Parsons geared turbines. 2 shafts, S.H.P.: 42,000=25 kts. (designed). 23.5 kts. (*actual*)
Boilers:	4, of 3-drum type (400 lb. working pressure, 700 degrees maximum superheat)
Oil fuel:	3,200 tons
Radius:	12,000 miles at 14 kts.; 6,200 miles at 23 kts.
Complement:	1,620 maximum accommodation 1,019 total in peacetime (42 officers and 777 men and 200 for air service) Official figures

General Notes

This ship was lent to the French Navy for five years from August 1946 with the option of purchase in 1951, which was taken up, and she was permanently transferred from Great Britain in that year. Extensively refitted 1950-51; and again refitted in 1957-58 (see *Reconstruction Notes*), She is now employed as a training carrier with no guns.

Reconstruction Notes

Modernised and partially rebuilt in 1957-58 with the angled deck at 4 degrees, and mirror sight deck landing aid sponsons, the overall width being increased from 112½ feet to just over 118 feet (36 metres). In consequence of these modifications the ship is able to receive the new Breguet Alizé ASM aircraft of the 1050 type.

Notes to Drawing

Starboard elevation and plan. Drawn in 1959. Scale: 128 feet=1 inch.

Engineering Notes

Engines and boilers are arranged *en echelon*, one set of turbines and two boilers being installed side by side in each of the two main propelling machinery spaces.

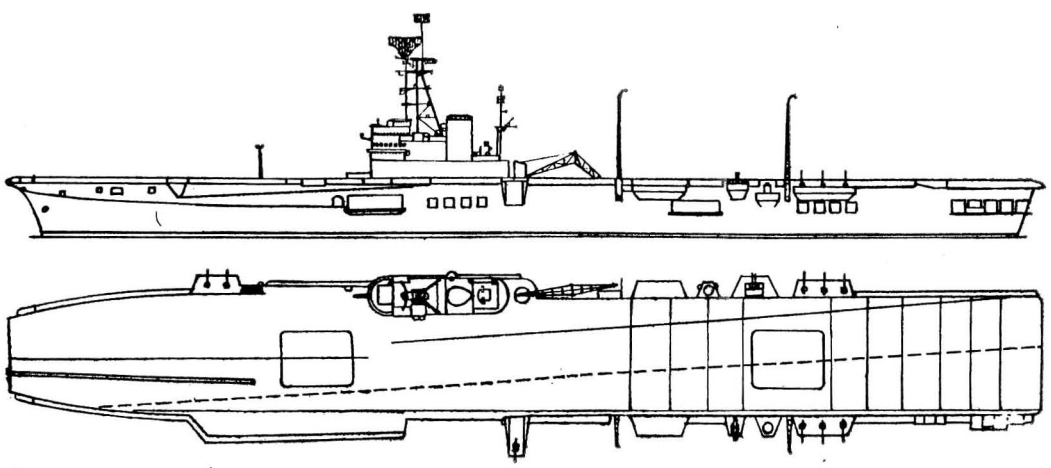
Gunnery Notes

She formerly mounted 43—40 mm. AA. guns (as refitted) but these were removed when she became a training carrier.

Recent Disposal of Battleships

It was officially stated in May 1961 that the battleship *Jean Bart* has been put in the Special Reserve, that she was withdrawn from active service in Aug. 1960 and now serves as an accommodation ship for the Gunnery School Complex, in Toulon. Classed as a hulk (for full particulars, photographs and drawings, see 1960-61 edition.)

Sister ship *Richelieu* has been employed as an accommodation vessel for the reserve officers' training establishment at Brest since 1956. In 1960 she was classed as a hulk and no longer listed under combatant vessels (for full particulars, photographs and drawings, see 1959-60 edition).



Aircraft Carriers—*continued*



LA FAYETTE (port bow oblique aerial view)

1961, *French Navy, Official*

1 Ex-U.S. "Cowpens" Class

LA FAYETTE (ex-*Langley*, ex-*Crown Point*, ex-*Fargo*)

Pennant No.:	R 96
Builders:	New York S.B. Corpn., Camden, New Jersey
Laid down:	11 Apr. 1942
Launched:	22 May 1943
Completed:	31 Aug. 1943

Displacement:	11,000 tons *standard* (15,800 tons *full load*)
Dimensions:	Length: 623 (*o.a.*) feet. Beam: 71½ (*hull*) feet. Width: 109 (*extreme*) feet. Draught: 26 (*max.*) feet
Armour:	2" Belt (5" on some vital points)
Aircraft:	26 carried
Machinery:	Geared turbines. 4 shafts. S.H.P.: 100,000=32 kts.
Boilers:	8 Babcock & Wilcox
Oil fuel:	2,000 tons
Range:	11,000 miles at 15 kts.: 5,800 miles, at 25 kts.
Complement:	1,183 (peace); 1,400 (war)

General Notes

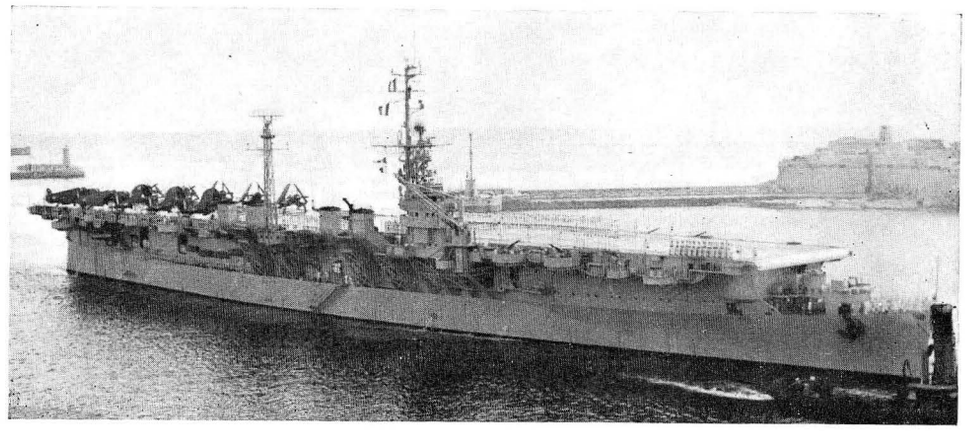
La Fayette was officially turned over to France on 6 June 1951 under the Mutual Defense Assistance Program. Formerly a unit of the United States Navy "Cowpens" class fast light fleet aircraft carriers. Laid down as a light cruiser of the U.S. "Cleveland" class but completed as an aircraft carrier. A new radar mast was added on the starboard side, between the funnels, in 1955.

Recent Disposal

Sister ship *Bois Belleau* (ex-U.S.S. *Belleau Wood*, CVL 24, ex-*New Haven*, CL 76), transferred on loan to France by the United States on 5 Sep. 1953 for five years, this period having been subsequently extended until 1960, was returned to the U.S. Navy on 12 Sep. 1960 and sold for scrap.

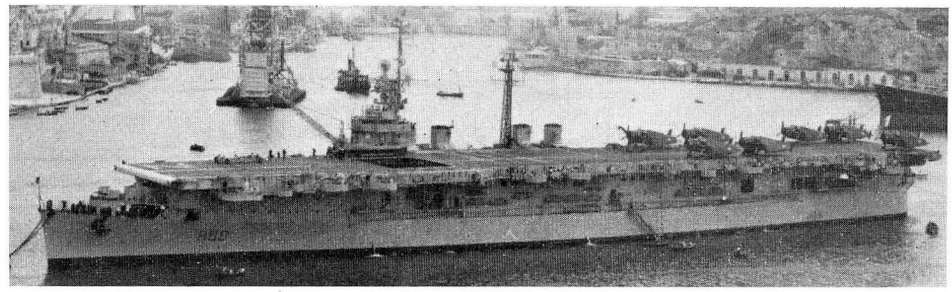
Recent Disposal of Escort Carrier

The auxiliary aircraft carrier *Dixmude* (ex-H.M.S. *Biter*, ex-*Rio Parana*), officially rated as *Transport d'Aviation*, former U.S. escort carrier, is now a hulk and used as a barracks at St. Mandrier (see full particulars and photograph in the 1959-60 edition).



LA FAYETTE (starboard bow view)

A. & J. Pavia



LA FAYETTE (Lift well open)

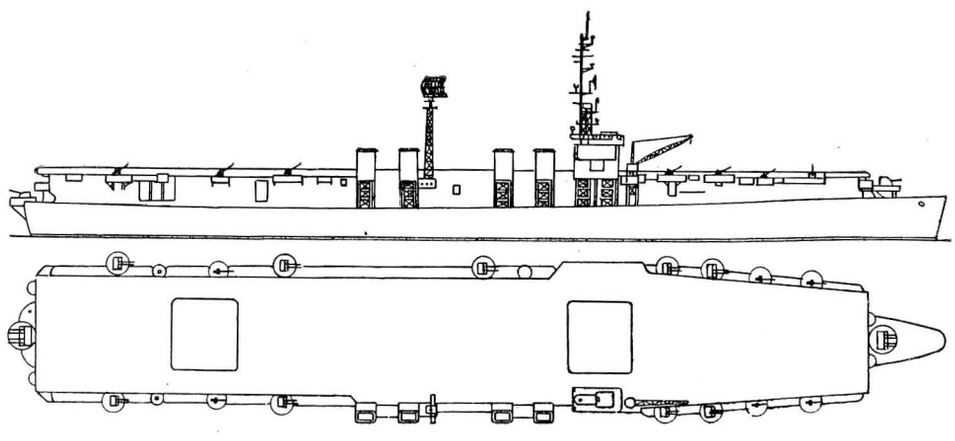
A. & J. Pavia

Aircraft Notes

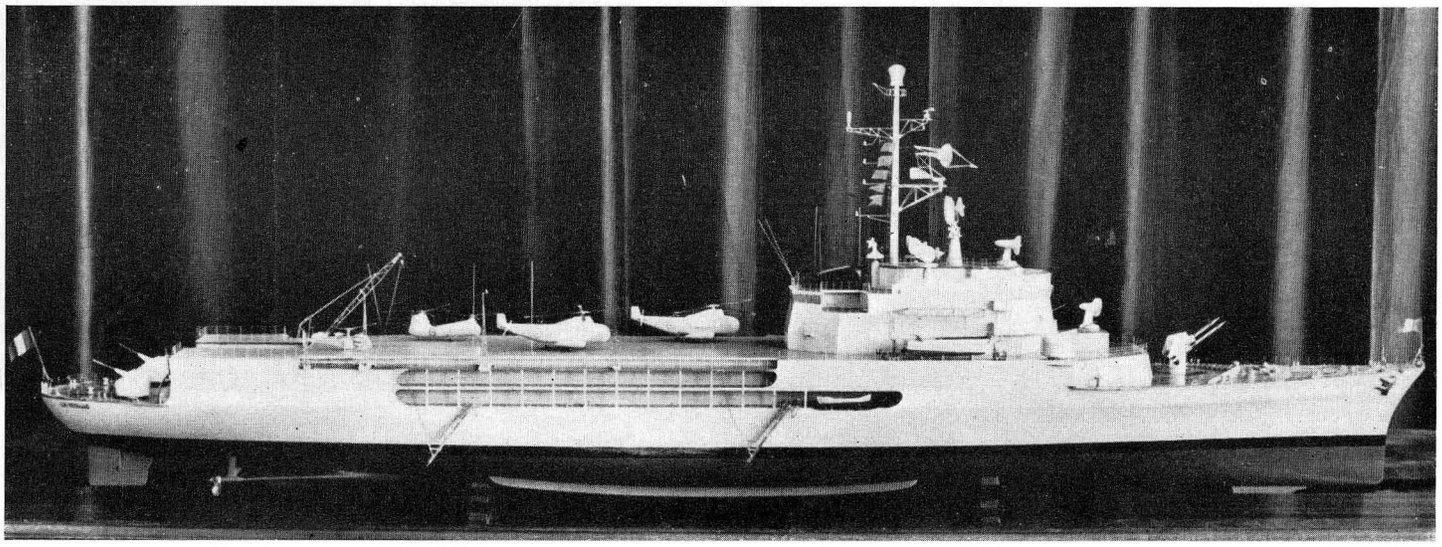
The maximum aircraft capacity when stowed for transportation only (and with 1943 models) was 101.

Note to Drawing

Starboard elevation and plan. Scale: 128 feet=1 inch.



CRUISER HELICOPTER CARRIER (*Croiseur Porte-Hélicoptères*)



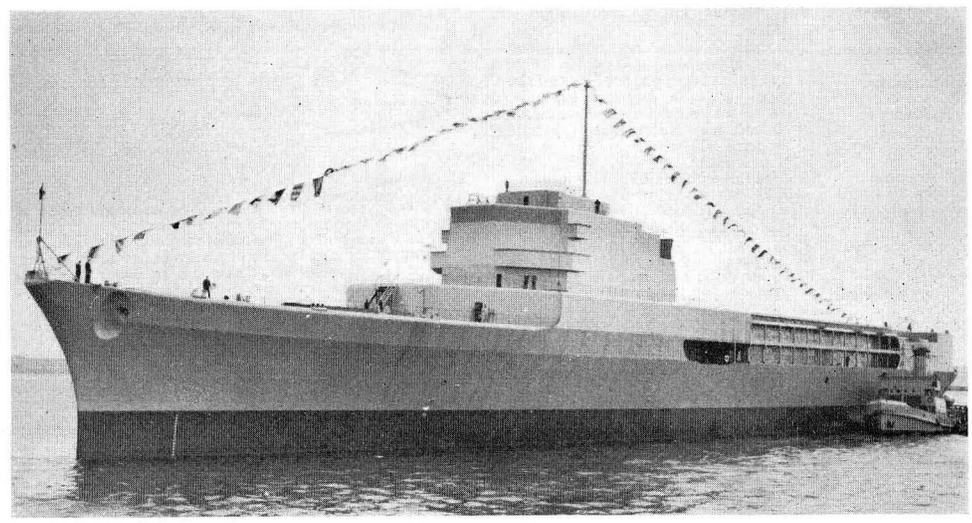
LA RESOLUE (revised official model) 1962, *French Navy, Official*

1 New Construction

LA RESOLUE PH 57

Builders:	Brest Dockyard
Ordered:	8 Mar. 1957
Laid down:	7 July 1960
Launched:	30 Sep. 1961

Displacement:	10,000 tons *standard* (13,000 tons *full load*)
Dimensions:	Length: 590½ feet (*o.a.*). Beam: 78¾ feet (*hull*). Draught: 20½ feet (*max.*) Helicopter platform: 230×85 feet
Guns:	4—3·9 inch AA. in single mountings
Guided Missiles:	Twin launcher for "Masurca" surface-to-air weapons
Aircraft:	Normal complement 8 heavy helicopters (ASM machines)
Machinery:	Rateau-Bretagne geared turbines. 2 shafts. S.H.P.: 40,000=26·5 kts. (designed speed)
Boilers:	4, working at a pressure of 640 lb. per sq. in. and a temperature of 842 deg. F of superheat
Oil fuel:	2,000 tons
Radius:	6,000 miles at 15 kts.
Complement:	1,050



LA RESOLUE (after launch) 1962, *French Navy Official*

General Notes

Authorised under the 1957 estimates. To be used for the training of 192 officer cadets in time of peace in place of the training cruiser *Jeanne d'Arc* which is scheduled to be discarded in 1964. In wartime, after rapid modification, she will be used as a commando ship, helicopter carrier or troop transport with commando equipment and a battalion of 700 men. She is expected to be commissioned for trials in July 1963 and to be ready for operational service in June 1964.

Gunnery Notes

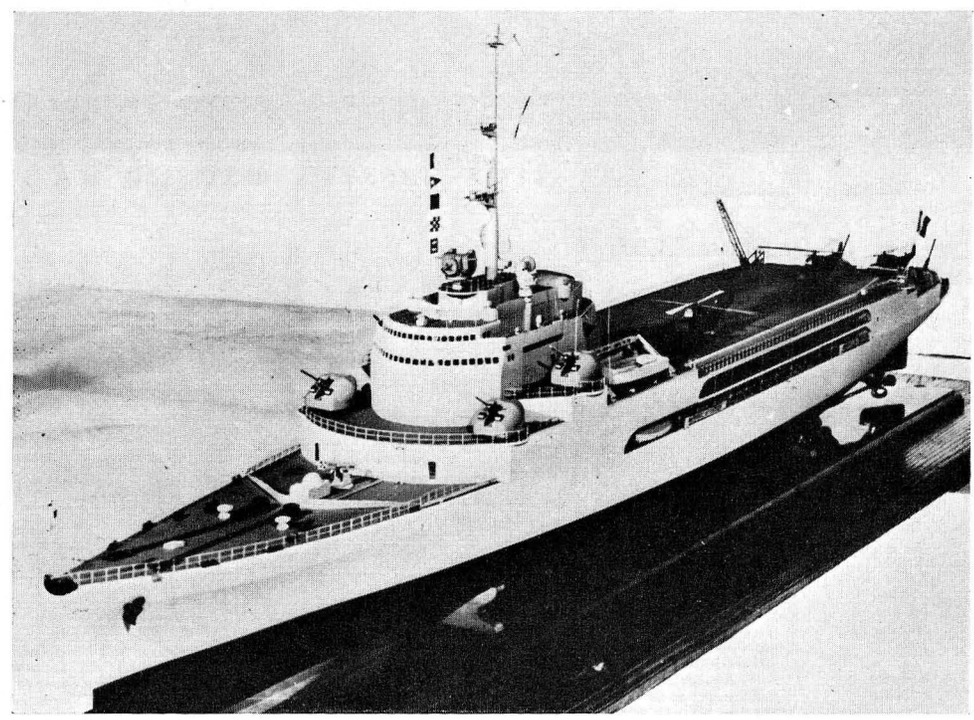
She was originally designed to mount six 100 mm. (3·9 inch) guns (now four), and a quadruple mortar, now replaced by a twin launcher for "Masurca" surface-to-air guided missiles.

Nomenclature Notes

The name *La Resolue* is only a temporary one until the decommissioning of the training cruiser *Jeanne d'Arc* which will be relieved by *La Resolue* in 1964 when the latter ship will take the name *Jeanne d'Arc*.

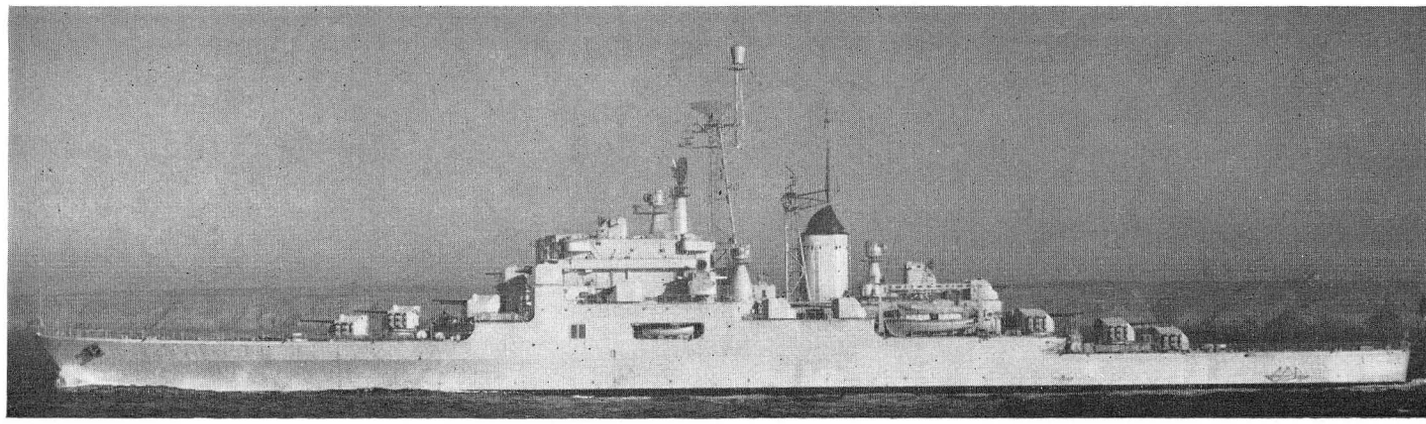
Recent Disposals of Cruisers

Of the three old cruisers of the "Gloire" class, the *Gloire* was condemned on 2 Jan. 1958, *Georges Leygues* was discarded in 1959, both having been subsequently sold for scrapping, and it is officially stated that *Montcalm* was withdrawn from active service on 1 Jan. 1961. She was relegated to be an accommodation ship at Toulon (replacing the hulk *Emile Bertin*). For full particulars, photographs and drawings, see 1959-60 and earlier editions.



LA RESOLUE (PH 57) model, port bow oblique elevated view 1961, *French Navy, Official*

ANTI-AIRCRAFT CRUISERS (*Croiseurs Anti-Aérien*)



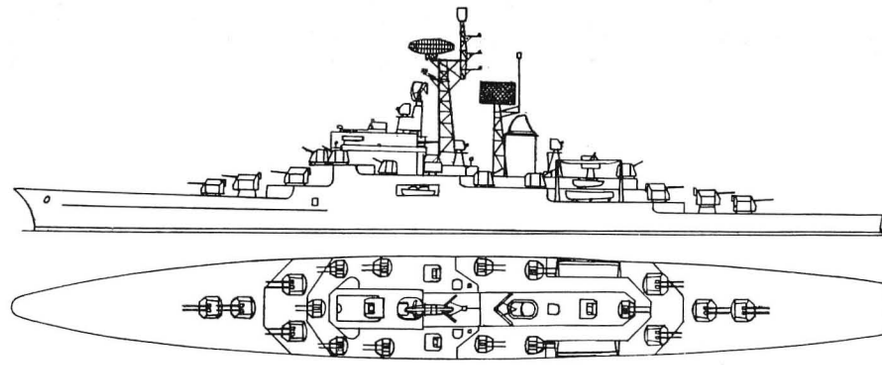
COLBERT

Added 1961, French Navy, Official

1 Improved "De Grasse" Class

COLBERT

Pennant No.:	C 611
Builders:	Brest Dockyard
Laid down:	Dec. 1953
Launched:	24 Mar. 1956 (floated out of dry dock)
Completed:	1958 (trials end of 1957)
Commissioned:	5 May 1959
Displacement:	8,720 tons *standard* (11,000 tons *full load*), officially revised figures
Dimensions:	Length: 574½ (*pp.*), 597⅛ (*o.a.*) feet. Beam: 63½ feet. Draught: 18¾ feet
Guns:	16—5 inch AA. (8 twin mountings), 20—57 mm. Bofors AA. (10 twin mountings)
Aircraft:	1 helicopter
Armour:	Has some protection. See notes
Machinery:	CEM-Parsons geared turbines. 2 shafts. S.H.P.: 86,000=32 kts.
Boilers:	4, working at a pressure of 640 lb. per sq. in. and a temperature of 842 deg. F of superheat
Radius:	4,000 miles at 25 kts.
Complement:	977 (70 officers and 907 men)



General Notes

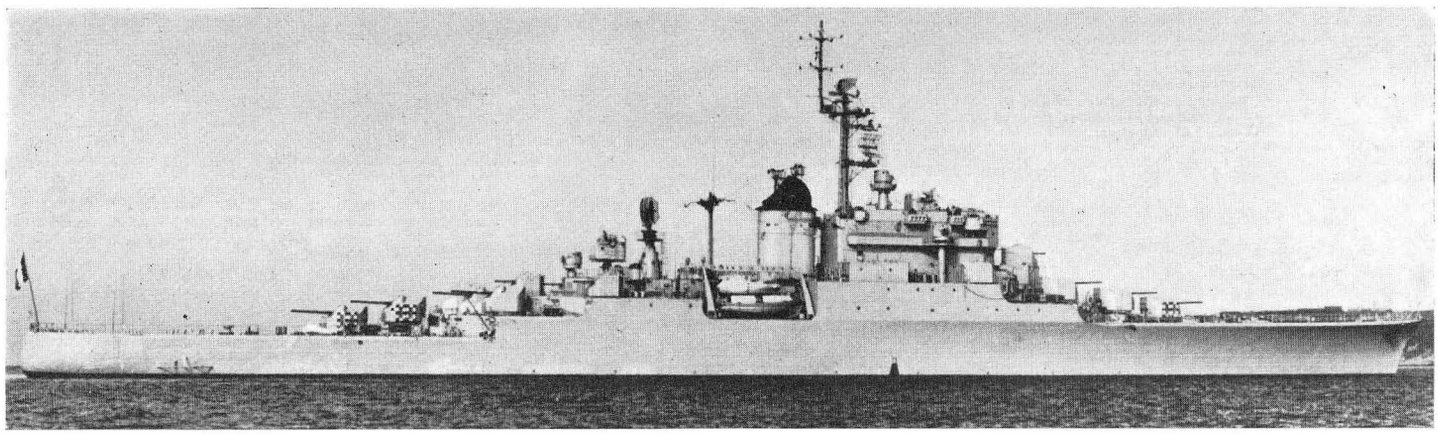
Improved "De Grasse" type. Provision was made in the design so that she can be fitted eventually with guided missiles. Has a new scheme of protection, quite different from that of *De Grasse*, and a platform for a helicopter. Equipped as a fleet command ship and for radar control of air strikes. As a fast transport she could carry 2,400 men and equipment.

Gunnery Notes

Guns are radar controlled with stabilised gunlayers for automatic tracking.

Notes to Drawing

Port elevation and plan. Redrawn in 1957. Scale: 128 feet=1 inch.



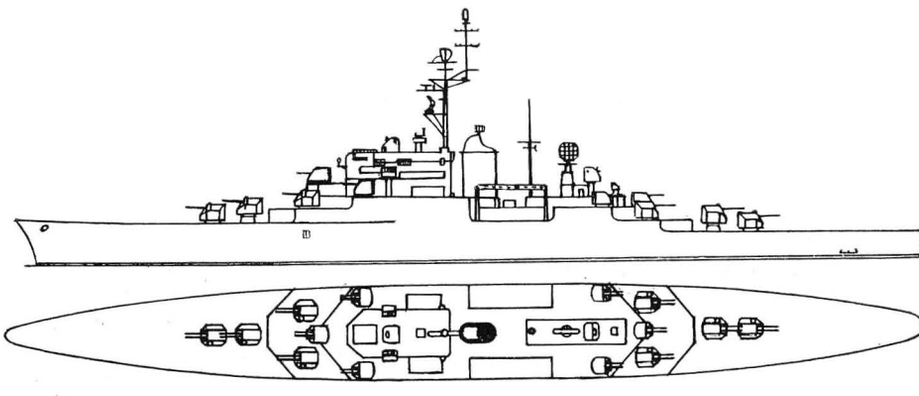
DE GRASSE (after modification)

1962, French Navy, Official

1 "De Grasse" Class

DE GRASSE

Pennant No.:	C 610
Builders:	Lorient Dockyard and Brest Dockyard (see notes)
Engineers:	A. & C. de Bretagne
Laid down:	Nov. 1938
Launched:	11 Sep. 1946
Completed:	Aug. 1955 (trials)
Commissioned:	3 Sep. 1956 (ready for active service)
Displacement:	9,380 tons *standard* (11,545 tons *ful load*) officially revised figures
Dimensions:	Length: 592 (*pp.*), 617⅛ (*o.a.*) feet. Beam: 61 feet. Draught: 18¼ feet (*mean*)
Guns:	16—5 inch AA. (8 twin mountings), 12—57 mm. Bofors AA. (6 twin mountings)
Armour:	Has some protection including armoured deck and side belt.
Machinery:	Rateau-Chantiers de Bretagne geared turbines. 2 shafts. S.H.P.: 105,000=33·5 kts.
Boilers:	4 multitubular
Radius:	5,000 miles at 18 kts.
Complement:	983 (86 officers and 897 men with Admiral on board), officially revised figures



General Notes

Ordered under the 1937 Estimates. Her construction was suspended during the German occupation of Lorient, but was resumed in 1946 until her launch when building was stopped. Construction was again resumed on 9 Jan. 1951. Completed in Brest Dockyard as an anti-aircraft cruiser to a modified design. She is equipped as a fleet command ship and for radar control of air strikes.

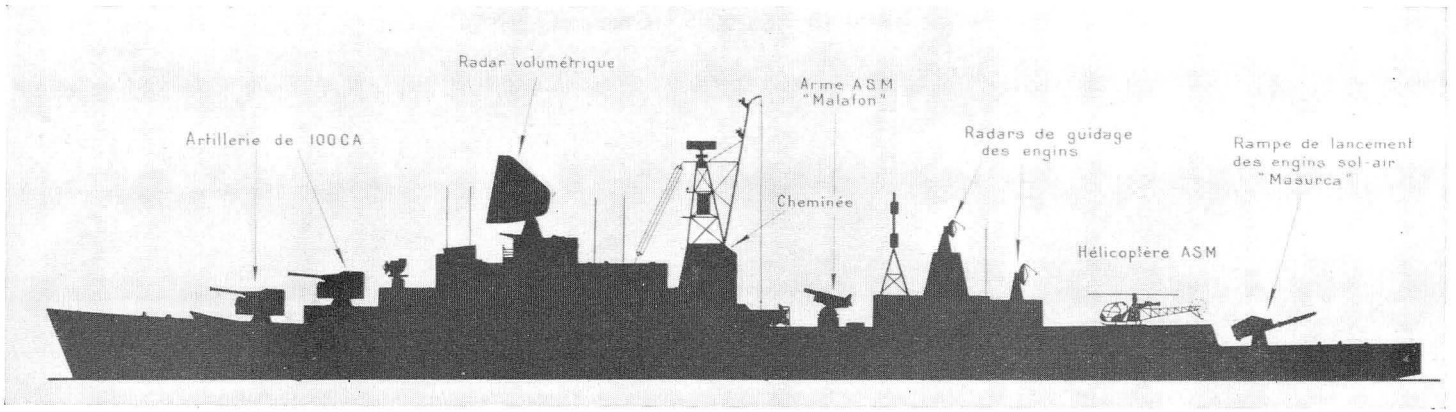
Gunnery Notes

Guns are radar controlled with stabilised gunlayers for automatic tracking. Armament has recently been redistributed.

Note to Drawing

Port elevation and plan. Scale: 128 feet=1 inch. Redrawn in 1962.

GUIDED MISSILE FRIGATES (*Fregates Lance-Engins*)



NEW GUIDED MISSILE FRIGATE (silhouette drawing)

1961, *French Navy, Official*

3 Projected Light Cruiser or Destroyer Leader Type

Displacement:	4,400 tons *standard* (5,600 tons *full load*)
Dimensions:	Length: 518½ (*o.a.*) feet. Beam: 48 feet
Machinery:	Geared turbines. 2 shafts. S.H.P.: 70,000=34 kts.
Guided Missiles:	" Masurca " surface-to-air weapons
Guns:	2 single mount automatic 3·9 inch AA. guns. 2 single mount automatic 30 mm. AA. guns
Aircraft:	One A/S helicopter only
A/S weapons:	(*a*) Malafon guided missile. The Malafon is a rocket-glider dropping a homing torpedo in the vicinity of the enemy submarine. (*b*) Helicopter directed by the ship towards the enemy submarine (*c*) Homing torpedoes launched directly from the ship

General Notes

The structure of the ship will provide the best possible resistance to atomic blast.

The vessel is to be fitted with up-to-date detection devices (radar and sonars).

Carefully studied habitability is a feature of the design.

The first ship of this class is to be built at Lorient, to be laid down in 1962 and to be commissioned in 1966.

(All the above particular were kindly furnished by the French Admiralty.)

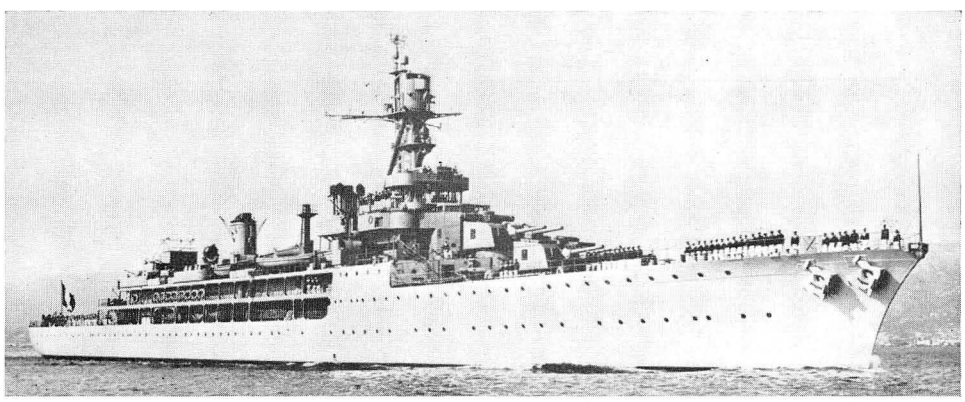
Reclassification Notes

Until 1961 this type was officially known as a "guided missile cruiser," but as it more nearly approximates to the current destroyer leader category it has been reclassified as " guided missile frigate."

TRAINING CRUISER (*Croiseur-Ecole*)

JEANNE D'ARC

Pennant No.:	C 605
Builders:	Penhoët, St. Nazaire
Laid down:	1928
Launched:	14 Feb. 1930
Completed:	Sep. 1931
Displacement:	6,500 tons *standard* (9,000 tons *full load*)
Dimensions:	Length: 525 (*pp.*), 557¾ (*o.a.*) feet. Beam: 57½ feet. Draught: 17¾ (*mean*), 20⅔ (*max.*) feet
Guns	8—6·1 inch, 4—2·9 inch (75 mm.) AA., 8—40 mm. AA., 10—20 mm. AA.
Armour:	Protective deck and light plating to gunhouses and conning tower
Machinery:	Parsons geared turbines. 2 shafts. Designed H.P.: 32,500=25 kts. see *Engineering Notes*
Boilers:	4 Penhoët
Oil fuel:	1,400 tons
Radius:	5,200 miles at 11 kts., 3,200 miles at 21 kts.
Complement:	582 total in peacetime (32 officers, 120 petty officers and 430 ratings)



JEANNE D'ARC

Added 1961 *French Navy Official*

General Notes

Authorised under the 1927 Programme. Specially designed as a training cruiser. Can accommodate 156 midshipmen and cadets and 20 instructional officers in addition to normal complement. Scheduled to be discarded in 1964 when a new helicopter carrier will replace her as a training ship (see earlier page).

Engineering Notes

On 3 hours' full power trials the machinery originally developed an average of 39,200 S.H.P. equal to 27·03 (*mean*) 27·84 (*max.*) kts. Actual sea speed is now 22 kts.

Recent Disposals

Of the two former Italian light cruisers, employed as command ships and flotilla leaders and rated as *escorteur d'escadre*, *Guichen* (ex-*Scipione Africano*) was put in the Special Reserve in Brest on 1 Apr. 1961 and deleted from the list, and *Chateaurenault* (ex-*Attilio Regolo*) was likewise reduced on 1 Oct. 1962 and replaced by refitted *Surcouf*.

EXPERIMENTAL GUIDED MISSILE SHIP (Ex-Transport)

ILE d'OLÉRON (ex-*München*, ex-*Mur*)

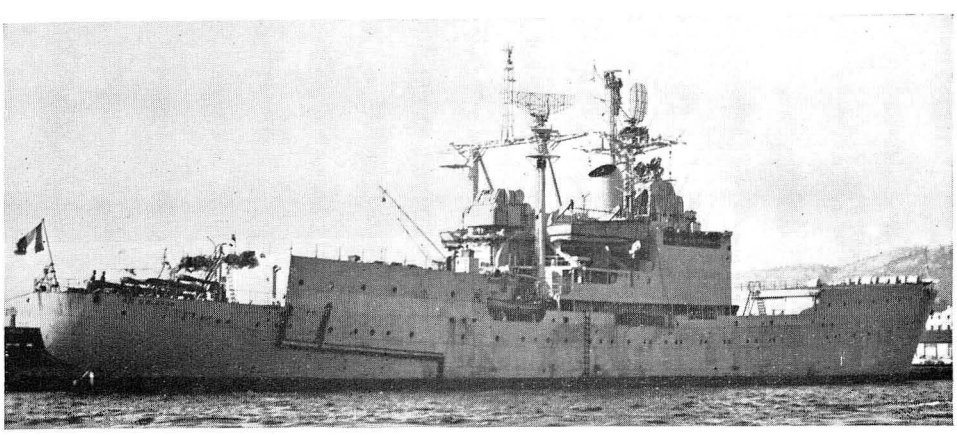
Displacement:	3,280 tons *standard* (7,500 tons *full load*)
Dimensions:	350 (*pp.*), 377½ (*o.a.*)×50×21⅓ feet
Guns:	Replaced by guided missiles (see *Guided Missile Notes*)
Machinery:	M.A.N. 6-cyl. diesels. 1 shaft. B.H.P.: 3,500=14·5 kts.
Oil fuel:	340 tons
Radius:	7,200 miles at 12 kts.; 5,900 miles at 14 kts.
Complement:	195 (15 officers, 180 men)

General Notes

This vessel, launched in Germany in 1939, and taken as a war prize, was formerly rated as a transport. She was employed as an accommodation vessel at Brest until she was converted into an experimental guided missiles ship in 1957-58 by Chantiers de Provence et l'arsenal de Toulon. She was commissioned as a test bed early in 1959.

Experimental Notes

When converted she was designed for experiments with two launchers for ground to air missiles, the medium range " Mascurca " and the long range " Masalca," and one launcher for ship to ship/shore missiles, the " Malaface."



ILE D'OLÉRON

1959, *Marius Bar*

Guided Missile Notes

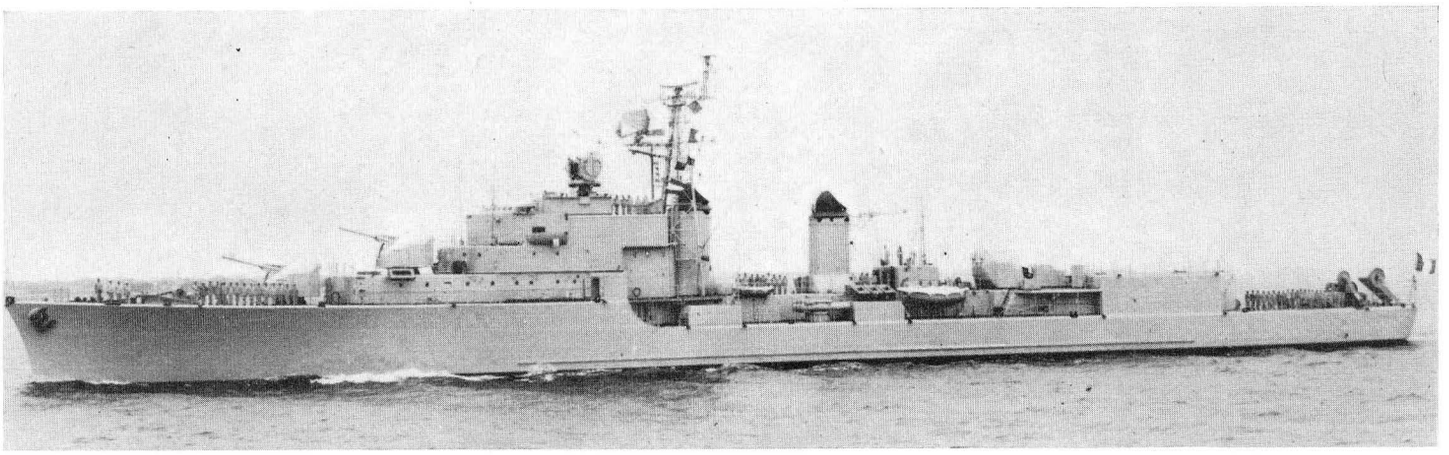
Fitted with 1 launcher for target planes (see *Experimental Notes*).

Photograph Notes

Official port quarter view on page 474 (Addenda) of the 1959-60 edition.

DESTROYERS (Rated as *Escorteurs d'Escadre*)

18 " Surcouf " Group



LA GALISSONNIERE

1962, *French Navy, Official*

1 Anti-Submarine (T 56) Type

LA GALISSONNIÈRE

Pennant No.:	D 638
Builders:	Lorient Naval Dockyard
Laid down:	Nov. 1958
Launched:	12 Mar. 1960
Completed:	To be 1962
Displacement:	2,750 tons *standard* (3,750 tons *full load*)
Dimensions:	422 (*o.a.*) × 41¾ × 16½ (*mean*) 17¾ (*max.*) feet
Guns:	2—3·9 inch automatic AA. in single mounts, 2—30 mm. automatic AA. in single mounts
Aircraft:	1 helicopter (see A/S weapons)
Guided Missiles:	" Malafon " weapon (see A/S weapons)
Tubes:	6—21·7 inch ASM
A/S weapons:	1—12 inch (quadruple) ASM mortar 1 A/S helicopter 1 launcher for " Malafon " A/S guided missile
Machinery:	Geared turbines. 2 shafts. S.H.P.: 63,000=34 kts. (72,000 S.H.P.= 38 kts. on trials *light*)
Boilers:	4
Oil fuel:	800 tons
Radius:	5,000 miles at 18 kts.
Complement:	335 (22 officers and 313 men)

General Notes

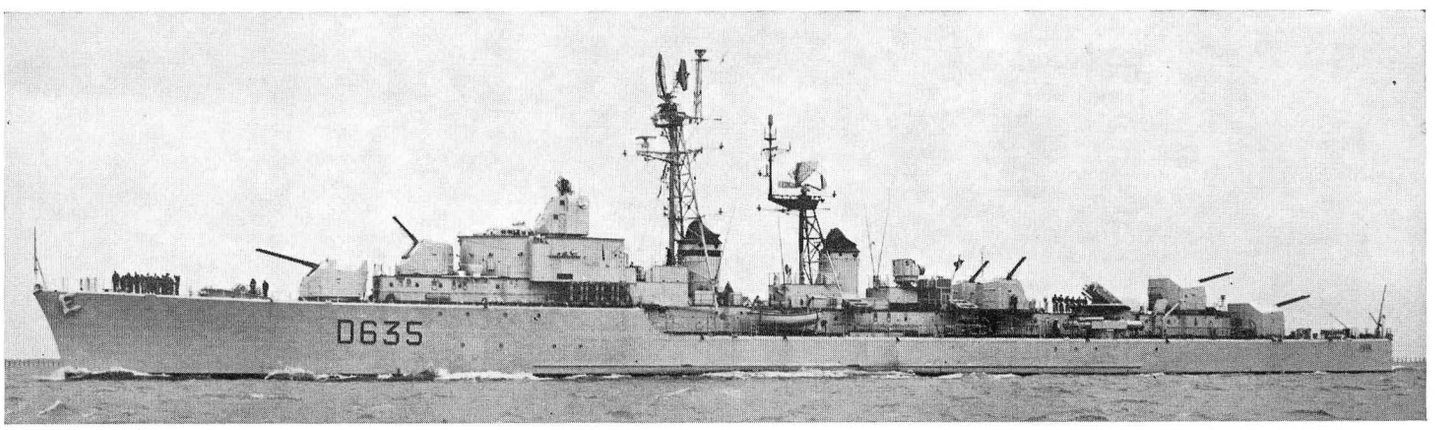
Designed as a squadron escort and flotilla leader. She has extensive sonar and anti-submarine apparatus, including variable depth sonar and homing torpedoes. Particularly well developed anti-aircraft and radar equipment. T 56 type. Same characteristics as regards hull and machinery as T 47 and T 53 R types, but different armament. She has a platform for landing on a helicopter. When first commissioned she will be used as a experimental ship for new sonars and anti-submarine weapons, it was officially stated.

Armament Notes

She will be fitted experimentally with French marks of guided missiles and she will be the first French combatant ship to be so armed. This is the reason for the now official two 3·9 inch guns instead of the 3 or 4 previously planned. As redesigned she will be France's first operational guided missile ship.

Photograph Notes

A photograph of the official model as projected in 1960 appears in the 1960-61 and 1961-62 editions. Since 1958 there have been several recastings of the design.



FORBIN

1959, *Wright & Logan*

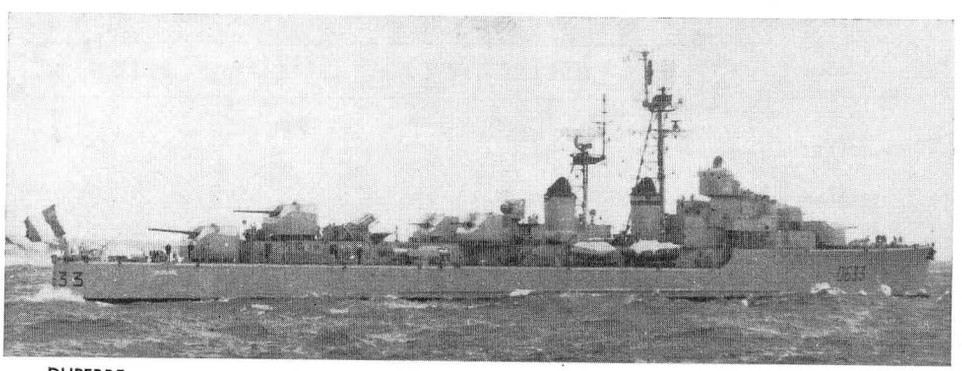
5 Aircraft Direction (T 53) Type

DUPERRÉ
FORBIN
JAURÉGUIBERRY
LA BOURDONNAIS
TARTU

Displacement:	2,750 tons *standard* (3,750 tons *full load*)
Dimensions:	422 (*o.a.*) × 41¾ × 16½ (*mean*), 17¾ (*max.*) feet
Guns:	6—5 inch AA. (twin mounts), 6—2·25 inch (57 mm.) Bofors AA., 2 or 4—20 mm. AA.
Tubes:	6—21·7 inch ASM (two triple mountings) also able to launch ordinary torpedoes
A/S weapons:	New device of heavy hedgehog (sextuple Bofors *lance roquettes* howitzer)
Machinery:	2 Geared turbines. 2 shafts. S.H.P.: 63,000=34 kts.
Boilers:	4 (500 lb./sq. in. pressure, 725; superheat) in two boiler rooms separated by turbine compartments.
Oil fuel:	700 tons
Radius:	5,000 miles at 18 kts.
Complement:	346 (20 officers and 326 men)

General Notes

Radar Picket Destroyers. Modified " Surcouf " Class or " T 53 R " Type. Specially fitted as aircraft direction and command ships. Radar equipment is more comprehensive and prominent than in the original " Surcouf " or " T 47 " Anti-Aircraft Type and gives them a different appearance. All authorised under the 1953 Programme. These vessels were classed as Escorteurs Rapides in 1953, but re-rated as Escorteurs d'Escadre in 1955. Latest electronic appliances provided. Names after famous French sailors.



DUPERRE

1962, *A. & J. Pavia*

Constructional Notes

Hull entirely welded. Light alloys used extensively for upperworks.

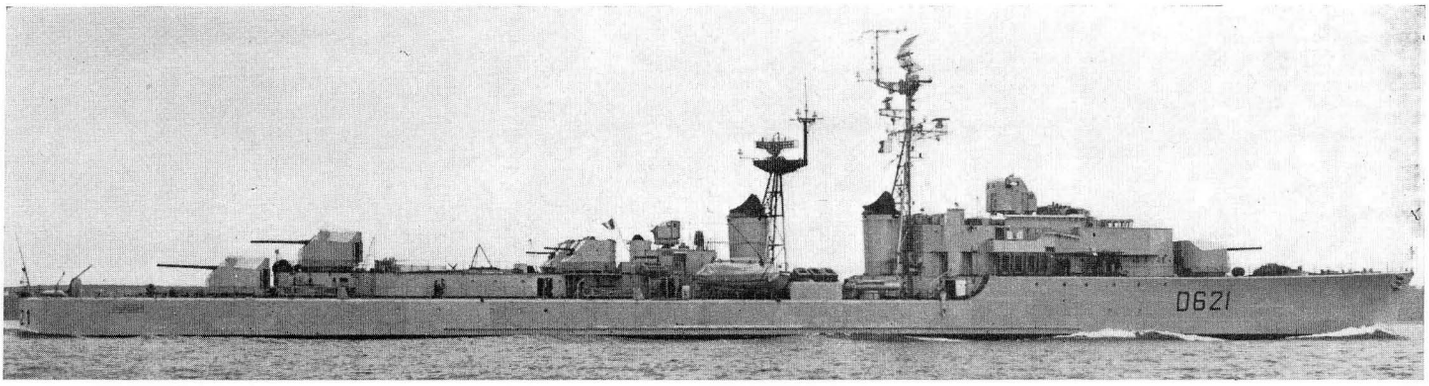
Gunnery Notes

The 5 inch guns are able to use standard American ammunition.

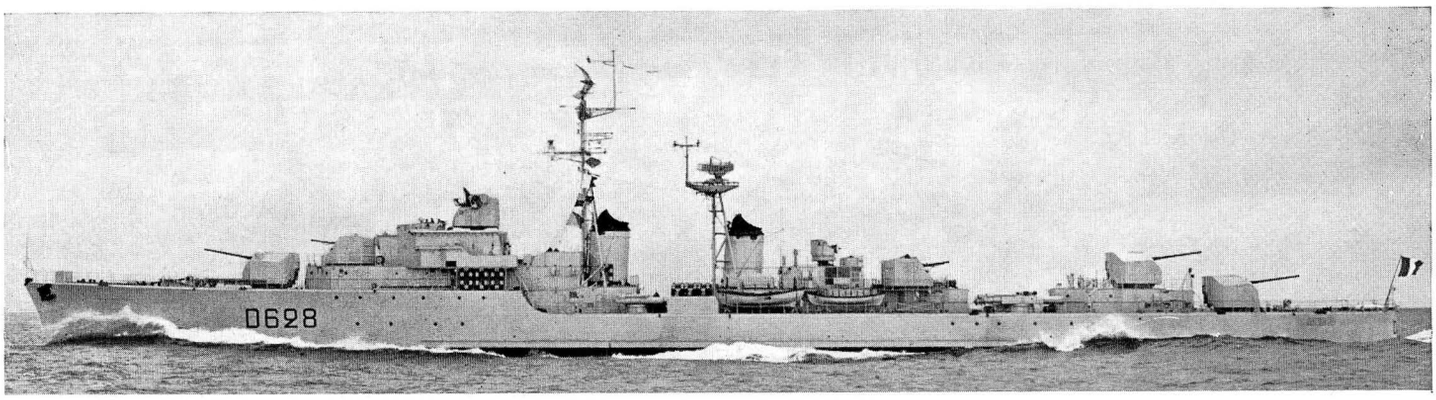
Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed (commissioned)*
D 633	*Duperré*	Lorient Naval Dockyard	Nov. 1954	2 July 1955	8 Oct. 1957
D 635	*Forbin*	Brest Naval Dockyard	Aug. 1954	15 Oct. 1955	1 Feb. 1958
D 637	*Jauréguiberry*	F. C. Gironde	Sep. 1954	5 Nov. 1955	July 1958
D 634	*La Bourdonnias*	Brest Naval Dockyard	Aug. 1954	15 Oct. 1955	Mar. 1958
D 636	*Tartu*	A.C. Bretagne	Nov. 1954	2 Dec. 1955	5 Feb. 1958

Destroyers—*continued*

18 "Surcouf" Group—*continued*



SURCOUF (as modified) 1962, *French Navy, Official*



VAUQUELIN 1957, *French Navy, Official*

12 Anti-Aircraft (T 47) Type

BOUVET
CASABIANCA
CASSARD
CHEVALIER PAUL
D'ESTRÉES
DU CHAYLA
DUPETIT THOUARS
GUÉPRATTE
KERSAINT
MAILLÉ-BRÉZÉ
SURCOUF
VAUQUELIN

Displacement:	2,750 tons *standard* (3,750 tons *full load*)
Dimensions:	422 (*o.a.*) × 41⅔ × 16½ (*mean*), 17¾ (*max.*) feet
Guns:	6—5 inch. AA. (twin mounts), 6—2·25 inch (57 mm.) Bofors AA., 6—20 mm. AA. See *Command Notes*
Guided Missiles:	See *Guided Missile Notes*
Tubes:	12—21·7 inch in four triple mountings (6 for ordinary and special ASM torpedoes, 6 for ASM homing torpedoes only). See *Command Notes*
A/S weapons:	
Machinery:	2 Geared turbines. 2 shats. S.H.P.: 63,000=34 kts. (on trials *Surcouf* made 36·5 kts.)
Boilers:	4 (500 lb./sq. in. pressure, 725° F. superheat) in two boiler rooms alternating with two-turbine compartments
Oil fuel:	700 tons
Radius:	5,000 miles at 18 kts.
Complement:	347 (19 officers and 328 men)

General Notes

One authorised under 1949 Programme, one 1950, four 1951, six 1952. These vessels were designed as Escorteurs Rapides Anti-aériens but re-rated as Escorteurs de Prèmiere Classe in 1951, as Escorteurs Rapides in 1953 and as Escorteurs d'Escadre in 1955. Latest electronic appliances provided. Named after famous French sailors. These ships are the original "Surcouf" class or "T 47" type. All were commissioned by 1957.

Constructional Notes

Hull entirely welded, assembled from 84 prefabricated sections with a total weight of 1,100 tons. Light alloys used extensively for upperworks.

Gunnery Notes

The 5 inch guns (a new calibre in the French Navy) are semi-automatic, and were chosen to facilitate ammunition supply so that these guns are able to use standard American ammunition. *Bouvet* is employed as gunnery instruction ship.

Guided Missile Notes

Dupetit Thouars and three others are to be re-armed with "Tartar" guided missiles, and the remaining ships of the class with "Malafon" guided missilos.

Command Notes

Cassard, *Chevalier Paul* and *Surcouf* are refitted as flotilla leaders. They have only 4—57 mm. Bofors AA. and 6 tubes for ASM torpedoes (see photos).

Photograph Notes

A photograph of *Vauquelin* appears in the 1957-58 to 1961-62 editions, and of *Guépratte* in the 1959-60 to 1961-62 editions.



CASSARD (helicopter platform on stern) 1962, *Augusto Nani*



CASABIANCA 1959, *Wright & Logan*

Pennant No.	*Name*	*Builders*	*Laid down†*	*Launched*	*Completed**
D 624	*Bouvet*	Lorient Naval Dockyard	June 1952	3 Oct. 1953	13 May 1956
D 631	*Casabianca*	A.C. Bretagne	Oct. 1953	13 Nov. 1954	4 May 1957
D 623	*Cassard*	A.C. Bretagne	Nov. 1951	12 May 1953	14 Apr. 1956
D 626	*Chevalier Paul*	F.C. Gironde	Feb. 1952	28 July 1953	22 Dec. 1956
D 629	*D'Estrées*	Brest Naval Dockyard	May 1953	27 Nov. 1954	19 Mar. 1957
D 630	*Du Chayla*	Brest Naval Dockyard	July 1953	27 Nov. 1954	4 June 1957
D 625	*Dupetit Thouars*	Brest Naval Dockyard	Mar. 1952	4 Feb. 1954	15 Sep. 1956
D 632	*Guépratte*	F.C. Gironde	Aug. 1953	9 Nov. 1954	6 June 1957
D 622	*Kersaint*	Lorient Naval Dockyard	Nov. 1951	3 Oct. 1953	20 Mar. 1956
D 627	*Maillé-Brézé*	Lorient Naval Dockyard	Oct. 1953	26 Sep. 1954	4 May 1957
D 621	*Surcouf*	Lorient Naval Dockyard	July 1951	3 Oct. 1953	1 Nov. 1955
D 628	*Vauquelin*	Lorient Naval Dockyard	Mar. 1953	26 Sep. 1954	3 Nov. 1956

† Dates when assembly actually started on slip.

* Dates of entering service

DUAL PURPOSE FRIGATES (Rated as *Avisos Escorteurs*)

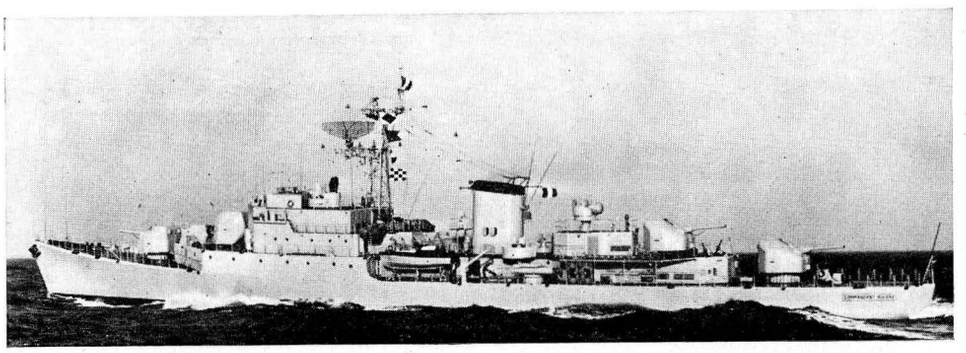
9 "Commandant Rivière" Class

	Launched
AMIRAL CHARNER	12 Mar. 1960
BALNY	15 Apr. 1961
COMMANDANT BORY	11 Oct. 1958
COMMANDANT BOURDAIS	15 Apr. 1961
COMMANDANT RIVIÉRE	11 Oct. 1958
DOUDART DE LAGRÉE	15 Apr. 1961
ENSEIGNE DE VAISSEAU HENRY	to be 1963
PROTET	17 Mar. 1962
VICTOR SCHOELCHER	11 Oct. 1958

Displacement:	1,750 tons *standard* (2,200 tons *full load*)
Dimensions:	321½ (*pp.*), 334 (*o.a.*) × 37¾ × 12½ (*mean*) feet
Guns:	3—3·9 inch automatic AA. of new design in single turrets; 2—30 mm. AA.
Aircraft:	1 light helicopter can land aft
Tubes:	6—21 inch ASM
A/S weapons:	1—12 inch quadruple ASM and anti-shore mortar and other weapons
Machinery:	Diesels 2 shafts.. B.H.P.: 16,000= 25 kts. (see notes)
Radius:	4,500 miles at 15 kts., 6,000 miles at 12 kts.
Complement:	180 peace, 210 war (Commando unit of 80 can be carried)

Notes

Seven ordered under 1956 naval estimates. Two more being built under 1957 estimates. All allocated to Lorient Naval Dockyard. *Commandant Rivière* started assembly on slip in Nov. 1956. *Balny* and *Commandant Bory* are to be equipped with Sigma free piston generators and gas turbines. Others will have four SEMT-Pielstick diesels coupled two by two on two shafts. Formerly classed as *Escorteirs d'Union Francaise*, but officially re-rated as *Avisos Escorteurs* on 1 Apr. 1959. Dual purpose type, designed to serve as *avisos* in peacetime and *frigates* in wartime. *Commandant Rivière*, name-ship of the class, was commissioned to run her preliminary sea trials on 1 Apr. 1959. *Commandant Bourdais* commissioned as fishery protection ship in Mar. 1962.



COMMANDANT RIVIÈRE — 1960, *courtesy M. Henri Le Masson*

FAST FRIGATES (Rated as *Escorteurs Rapides*)

18 Oceangoing (A/S and AA.) Group

14 "Le Normand" Class

(E 52 Type)

L'AGENAIS	**LE GASCON**
L'ALSACIEN	**LE LORRAIN**
LE BASQUE	**LE NORMAND**
LE BÉARNAIS	**LE PICARD**
LE BOURGUIGNON	**LE PROVENÇAL**
LE BRETON	**LE SAVOYARD**
LE CHAMPENOIS	**LE VENDÉEN**

Displacement:	1,295 tons *standard* (1,700 tons *full load*)
Dimensions:	311¾ (*pp.*), 327½ (*o.a.*) × 33¾ × 10 feet
Guns:	6—2·25 inch (57 mm.) AA. (4 in *L'Alsacien*, *Le Provençal*, *Le Vendéen*) (twin mounts), 2—20 mm' AA.
Tubes:	12 ASM tubes (four triple mountings aft) for homing torpedoes
A/S weapons:	Heavy sextuple ASM Bofors mortar of hedgehog type forward (*lance-roquettes*); 2 D.C. mortars; 1 D.C. rack (see *Notes*)
Machinery:	Geared turbines. Parsons or Rateau. S.H.P.: 20,000=27 kts. (on trials they topped over 29 kts.)
Boilers:	2 (500 lbs./sq. in. pressure, 725°F. superheat)
Radius:	4,500 miles at 15 kts.
Complement:	200

General Notes

The E 52 a type have similar characteristics to the E 50 type as regards hull and machinery but are easily distinguished in that they have the ASM tubes aft and the heavy hedgehog or ASM howitzer forward while the E 50 type have the ASM torpedo tubes forward. *L'Agenais*, *L'Alsacien*, *Le Béarnais*, *Le Provençal* and *Le Vendéen* have a different arrangement of bridges. *L'Alsacien*, *Le Provençal* and *Le Vendéen* have the Strombos-Valensi type modified funnel cap, and differ in armament, with a 12-inch quadruple mortar in place of the sextuple Bofors' howitzer, and only 4—57 mm. AA. guns.

Cancellation Notes

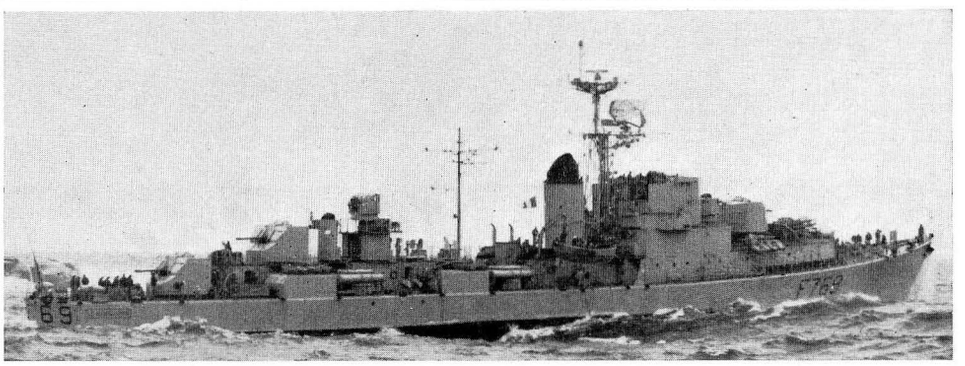
Owing to financial difficulties the construction of the two frigates of the "E 52 b" type, which were to have been provided under the 1957 naval estimates, was abandoned.

Photograph Notes

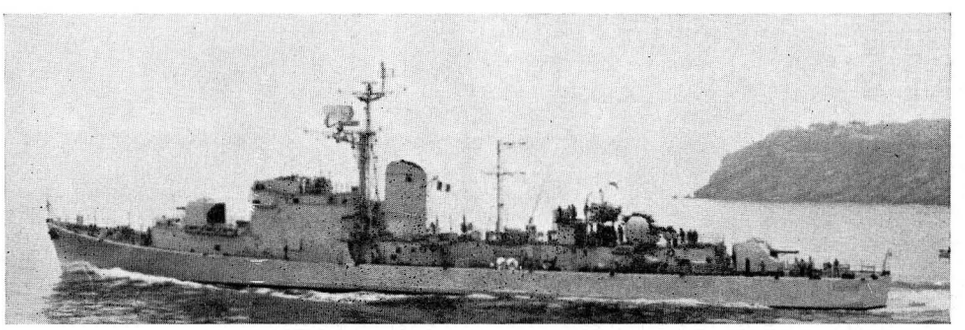
A larger photograph of *Le Gascon* appears in the 1957-58 to 1959-60 editions. Photograph of *Le Champenois* in the 1957-58 edition, of *L'Agenais* in the 1958-59 edition, *Le Boulonnais* in the 1956-57 and 1957-58 editions, *Le Corse* in the 1955-56 to 1957-58 editions, *Le Vendéen* in the 1959-60 to 1961-62 editions.

Recent Disposals of ex-British "River" type

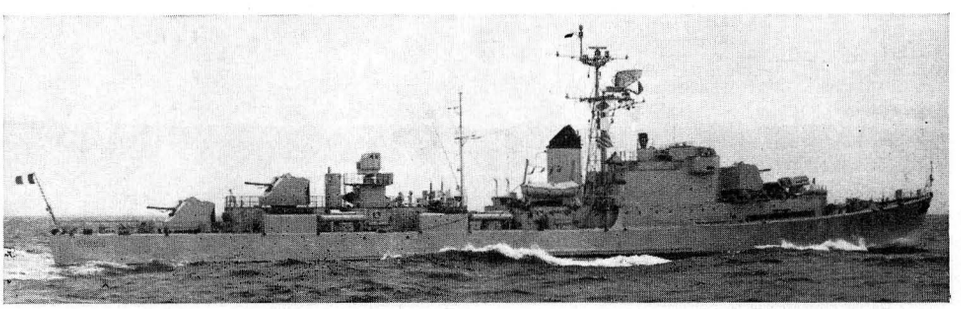
Of the "*L'Aventure*" class *La Decouverte* (ex-H.M.S. *Windrush*) was condemned in May 1961, and *L'Croix de Lorraine* (ex-H.M.S. *Strule*, ex-*Glenarm*), *La Ailette* (ex-*L'Escarmouche*, ex-H.M.S. *Frome*) and *La Confiance* (ex-*Tonkinois*, ex-H.M.S. *Mayola*) were condemned in Sep. 1961. *L'Aventure* was withdrawn from active service on 15 Dec. 1961. *La Surprise* has been in "Normal Reserve" since 1957 and will be condemned.



LE BOURGUIGNON — 1962, *A. & J. Pavia*



L'ALSACIEN — *Added 1960, courtesy M. Henri Le Masson*



L'AGENAIS — *Added 1960, French Navy, Official*

Pennant No.	*Name*	*Programme*	*Builders*	*Laid down*	*Launched*	*Completed**
F 765	*Le Normand*	1952	F. Ch. de la Mediterranee	July 1953	13 Feb. 1954	3 Nov. 1956
F 768	*Le Lorrain*	1952	F. Ch. de la Mediterranee	Feb. 1954	19 June 1954	1 Jan. 1957
F 766	*Le Picard*	1952	A.C. Loire	Nov. 1953	31 May 1954	20 Sep. 1956
F 767	*Le Gascon*	1952	A.C. Loire	Feb. 1954	23 Oct. 1954	29 Mar. 1957
F 770	*Le Champenois*	1952	A.C. Loire	May 1954	12 Mar. 1955	1 June 1957
F 769	*Le Savoyard*	1952	F. Ch. de la Mediterranee	Nov. 1953	7 May 1955	14 June 1956
F 771	*Le Bourguignon*	1952	Penhoët	Jan. 1954	28 Jan. 1956	11 July 1957
F 772	*Le Breton*	1953	Lorient Navy Yard	June 1954	2 Apr. 1955	20 Aug. 1957
F 773	*Le Basque*	1953	Lorient Navy Yard	Dec. 1954	25 Feb. 1956	18 Oct. 1957
F 774	*L'Agenais*	1954	Lorient Navy Yard	Aug. 1955	23 June 1956	14 May 1958
F 775	*Le Béarnais*	1954	Lorient Navy Yard	Dec. 1955	23 June 1956	18 Oct. 1958
F 776	*L'Alsacien*	1955	Lorient Navy Yard	July 1956	26 Jan. 1957	27 Aug. 1960
F 777	*Le Provençal*	1955	Lorient Navy Yard	Feb. 1957	5 Oct. 1957	6 Nov. 1959
F 778	*Le Vendéen*	1955	F. Ch. de la Mediterranee	Mar. 1957	27 July 1957	1 Oct. 1960

* Dates of commissioning, after completion of trials.

Fast Frigates (Rated as *Escorteurs Rapides*)—*continued*

18 Oceangoing Group—*continued*

4 "Le Corse" Class (E 50 Type)

LE BORDELAIS **LE BRESTOIS**
LE BOULONNAIS **LE CORSE**

Displacement:	1,290 tons *standard*, 1,528 tons for trials (1,702 tons *full load*)
Dimensions:	311¾ (*pp.*), 327½ (*o.a.*) × 33¾ × 10 feet
Guns:	6—2·25 inch (57 mm). AA. (twin mounts) 2—20 mm. AA.
A/S weapons:	2 mortars, 1 D.C. rack, 1 sextuple lance-roquettes
Tubes:	12 ASM tubes (four triple) for homing torpedoes. E 50 type have ASM tubes forward
Machinery:	Geared turbines. Parsons or Rateau. S.H.P.: 20,000=27 kts. (*Bordelais*, 29·5 kts. on trials)
Boilers:	2 (500 lbs./sq. in. pressure, 725°F. superheat)
Radius:	4,500 miles at 15 kts.
Complement:	198

Pennant No.	*Name*	*Programme*	*Builders*
F 764	*Le Bordelais*	1950	F. Ch. de la Mediterranee
F 763	*Le Boulonnais*	1950	A.C. Loire
F 762	*Le Brestois*	1949	Lorient Navy Yard
F 761	*Le Corse*	1949	Lorient Navy Yard

Name	*Laid down*	*Launched*	*Completed*
Le Bordelais	May 1952	11 July 1953	7 Apr. 1955
Le Boulonnais	Mar. 1952	12 May 1953	5 Aug. 1955
Le Brestois	Nov. 1951	16 Aug. 1952	19 Jan. 1956
Le Corse	Oct. 1951	5 Aug. 1952	15 Apr. 1955



LE BORDELAIS

1957, *courtesy M. Henri Le Masson*

General Notes
Intended as seagoing convoy escort vessels with a large radius of action. Designed as Escorteurs Rapides Anti-Sousmarins. Re-rated as Escorteurs de Deuxième Classe in 1951, as Escorteurs in 1953, and as Escorteurs Rapides in 1955. First four laid down are E 50 type, remainder E 52 type. Design stated to resemble closely that of new U.S. DE *Dealey*. *Le Bordelais* has Strombos-Valensi type modified funnel cap.

Gunnery Notes
Le Brestois has a single 3·9 inch automatic AA. gun mounted in place of the after twin mounting for experimental purposes

FRIGATES (Rated as *Escorteurs*)

Ex-U.S. Destroyer Escort Type 7 "Arabe" Class

BAMBARA (ex-*Swearer*, *DE* 186)
KABYLE (ex-*Riddle*, *DE* 185)
MALGACHE (ex-*Baker*, *DE* 190) } *2nd Group*
See *Amphibious Notes*
SOUDANAIS (ex-*Cates*, *DE* 763)
TOUAREG (ex-*Bright*, *DE* 747)

ALGÉRIEN (ex-*Cronin*, *DE* 107) } *1st Group*
SÉNÉGALAIS (ex-*Corbesier*, *DE* 106)

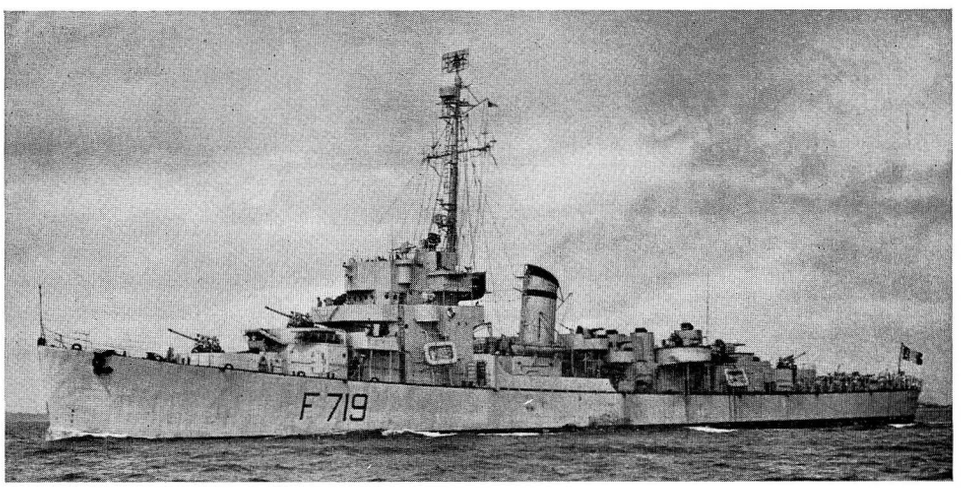
Displacement:	1,300 tons *standard* (1.650 ton *full load*)
Dimensions:	300 (*pp*), 306 (*o.a.*) × 36¾ × 10¾ feet
Guns:	*2nd Group*: 3—3 inch dual purpose, 6—40 mm. AA., 18—20 mm. AA. in twin mounts; *1st Group*: 3—3 inch, 3—40 mm., 10—20 mm. (See *Gunnery Notes*)
A/S weapons:	All have 1 hedgehog, 8 D.C. mortars, 2 D.C. racks, 126 D.C.
Macinery:	Diesel-electric drive. 4 General Electric diesels. 2 electric motors. 2 shafts. B.H.P.: 6,000=19 kts. (economical speed 12 kts.)
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts., 5,500 at 19 kts.
Complement:	150 peace, 185 war

Name	*Builders*
Algérien	Dravo Corporation, Wilmington, Del.
Bambara	Federal S.B. & D.D. Co.
Kabyle	Federal S.B. & D.D. Co.
Malgache	Federal S.B. & D.D. Co.
Sénégalais	Dravo Corporation, Wilmington, Del.
Soudanais	Tampa S.B. Co.
Touareg	Western Pipe & Steel Co.

Pennant No.	*Name*	*Launched*	*Completed*
F 701	*Algérien*	27 Nov. 1943	23 Jan. 1944
F 719	*Bambara*	31 Oct. 1943	24 Nov. 1943
F 718	*Kabyle*	17 Oct. 1943	17 Nov. 1943
F 724	*Malgache*	28 Nov. 1943	23 Dec. 1943
F 702	*Sénégalais*	11 Nov. 1943	2 Jan. 1944
F 722	*Soudanais*	10 Oct. 1943	15 Dec. 1943
F 721	*Touareg*	26 Sep. 1943	30 June 1944

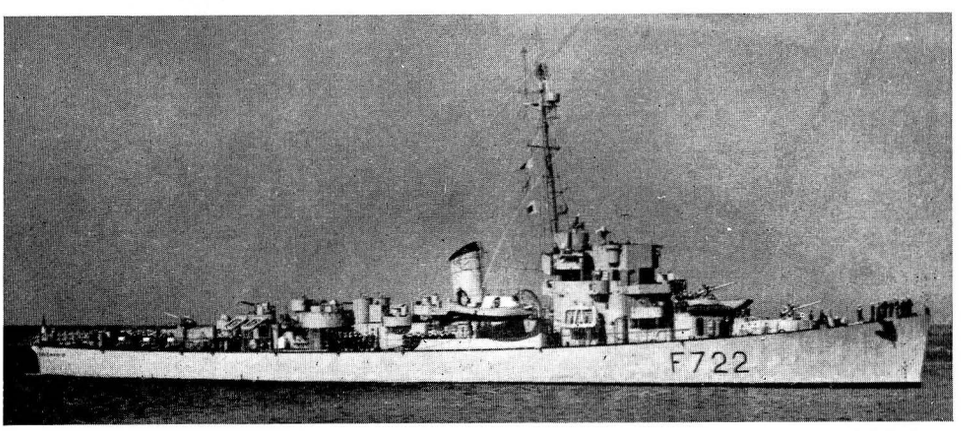
General Notes
First group acquired in 1944, first of six ships (*Sénégalais* being commissioned on 2 Jan. 1944). These were formerly rated as Torpilleurs d'Escorte, but re-rated Escorteurs de Deuxieme Classe in 1951. Six more *DEs* of same class transferred from U.S.A. in Mar. 1950 under Atlantic Pact. *Arabe* and *Kabyle* turned over to France on 12 Aug. 1950, *Bambara* and *Sakalave* turned over in Sep. 1950, *Soudanais* and *Touareg* delivered in Nov. 1950, all at Philadelphia. *Berbère* and *Malgache* transferred 29 Mar. 1952, at Brooklyn. All re-rated as Escorteurs in 1953.

Gunnery Notes
The first group which had 3—40 mm. and 10—20 mm. have been or are being rearmed (secondary armament) like the second group.



BAMBARA

Added 1960, Wright & Logan



SOUDANAIS

Added 1960, A. & J. Pavia

Amphibious Notes
Malgache is now command ship at the Amphibious Training Centre (C.I.O.A.) at Arzew, Algeria.

Experimental Notes
Somali was converted into an experimental vessel in 1956 and her armament landed, her pennant number subsequently being changed from F 703 to A 607. She is no longer a combatant ship.

Class Notes
Former United States destroyer escorts of the "Bostwick" class.

Photograph Notes
A photograph of *Somali* appears in the 1957-58 to 1959-60 editions.

Recent Disposals
Sister ships *Hova* (ex-*DE* 110), *Marocain* (ex-*DE* 109) and *Tunisien* (ex-*Crosley*, *DE* 108) of the 1st Group, and *Arabe* (ex-*Samuel S. Miles*, *DE* 183), *Berbère* (ex-*Clarence L. Evans*, *DE* 113) and *Sakalave* (ex-*Wingfield*, *DE* 194) were officially stricken from the list in 1960.

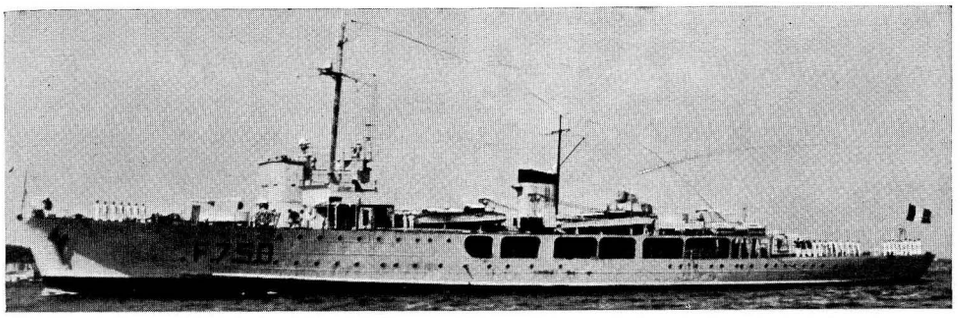
FRIGATES (Rated as *Avisos*)

2 "Beautemps-Beaupré" Class

BEAUTEMPS-BEAUPRÉ (ex-*Sans Souci*)
LA PÉROUSE (ex-*Sans Peur*)

Name:	*Beautemps-Beaupré*	*La Perouse*
Pennant No:	F 751	F 750
Builders:	Penhoet	Penhoet
Laid down:	1940	1940
Launched:	1941	1941
Completed:	8 May 1947	23 Apr. 1947

Displacement: 1,372 tons *standard* (2,000 tons *full load*)
Dimensions: 311⅔ × 38½ × 10½ feet
Guns: 1—4·1 inch, 2—40 mm. AA. 4—20 mm. AA. (4—40 mm. in *La Pérouse*)
Machinery: Sulzer diesels. 2 shafts. Speed: 16 kts.
Oil fuel: 230 to 240 tons
Radius: 7,000 miles at 15 kts.; 12,000 miles at 10 kts.
Complement: 152 (12 officers and 140 ratings)



LA PÉROUSE — 1955, *Marius Bar*

General Notes
Formerly rated as Avisos Coloniaux Hydrographes. Re-rated as Escorteurs de Deuxième Classe (Frigates) early in 1953, as Avisos Escorteurs 11 Aug. 1953, and as Avisos n 1955, although they are normally operated as surveying vessels (Batiments Hydrographes) Reported to be very successful vessels.

Gunnery Notes
The 4·1 inch guns are of the German 105 mm. model.

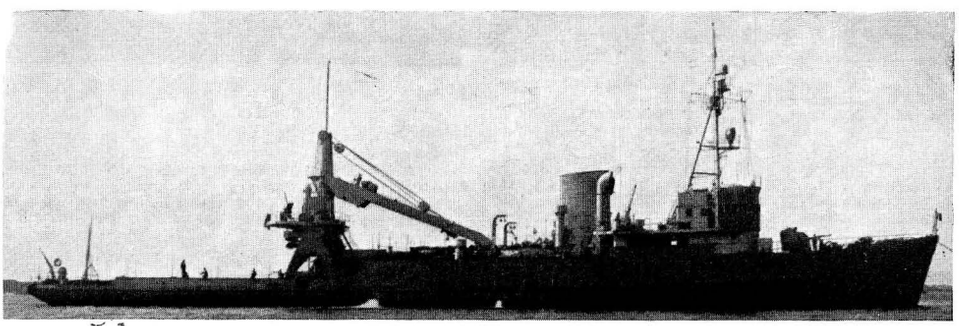
Recent Disposals
Of the colonial sloop type, *Savorgnan de Brazza* was scrapped in 1955, *Dumont d'Urville* was scrapped in 1958 and *Grandiere* was scrapped at the end of 1959.

2 "Commandant Robert Giraud" Class
Former Aircraft Tenders
(*Depanneurs d'Aviation*)

COMMANDANT ROBERT GIRAUD (ex-German *Immelmann*)
PAUL GOFFENY (ex-German *Max Stinsky*)

Name:	*Commandant Robert Giraud*	*Paul Goffeny*
Pennant No.:	F 755	F 754
Builders:	Norderwerft, Hamburg	Norderwerft, Hamburg
Launched:	1941	1940
Completed:	Dec. 1941	7 Aug. 1941

Displacement: 1,000 tons *standard* (1,380 tons *full load*)
Dimensions: 239 (*pp.*), 246 (*o.a.*) × 36 × 12 feet
Guns: 1—4·1 inch, 2—40 mm. AA., 2—20 mm. AA.
Machinery: 4 M.A.N. diesels. 2 shafts. B.H.P.: 8,800=20·5 kts. (23 kts. on trials)
Oil fuel: 236 tons
Radius: 4,000 miles at 18 kts.; 7,900 miles at 12 kts.
Complement: 77



COMMANDANT ROBERT GIRAUD — 1954, *courtesy M. Henri Le Masson*

General Notes
Former German aircraft tenders. Transferred by Great Britain in Aug. 1946. *Commandant Robert Giraud* is named after a gallant naval officer who lost his life when the destroyer *Bison* was sunk on 3 May 1940. Re-rated as Escorteurs de Deuxième Classe early in 1953, as Avisos Escorteurs on 11 Aug. 1953, and as Avisos in 1955. The above two ships have been used in Indo-China, where they have given yeoman service mainly as patrol and escort vessels, support gunboats and as carriers for commandos, as they are fast and reliable, and have a rather shallow draught, a good armament, and can stow LCV and LCVP aft.

Photograph Notes
Photograph of *Paul Goffeny* in the 1957-58 edition.

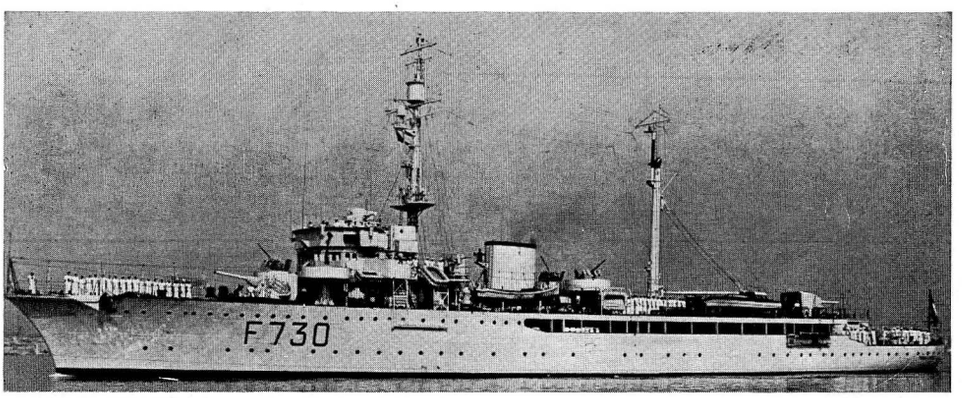
Engineering Notes
The four diesels are coupled two by two by hydraulic transmission on two shafts.

1 Ex-Italian Sloop Type (Rated as *Aviso*)

FRANCIS GARNIER (ex-*Eritrea*)

Pennant No:	F 730
Builders:	Castellammare
Laid down:	25 July 1935
Launched:	19 Sep. 1936
Completed:	June 1937

Displacement: 2,172 tons (*standard*, 3,172 tons *full load*)
Dimensions: 251½ (*w.l.*), 274 (*o.a.*) 43¾ × 11½ (*mean*) feet
Guns: 3—4,7 inch (single forward, twin aft), 4— 40mm. AA., 4—20 mm. AA.
A/S weapons: 2 D.C. mortars, 1 D.C. rack
Machinery: 2 Fiat diesels, with electric drive from 2 Marelli motors. 2 shafts. B.H.P.: 7,800=20 kts.
Oil fuel: 320 tons
Radius: 9,300 miles at 12 kts.; 4,000 miles at 16 kts.
Complement: 184 (peace), 211 (war)



FRANCIS GARNIER — 1954 *Marius Bar*

Notes
Designed by Engineer Major-General Icilio d'Esposito. Fitted for minelaying. Ordered on 8 May 1935. Ex-Italian sloop. Transferred to France under the terms of the Peace Treaty. Extensively overhauled in 1952-53. Formerly rated Aviso de Première Classe. Re-rated Escorteur de Deuxième Classe in 1951, Aviso Escorteur in 1953, and Aviso in 1955.

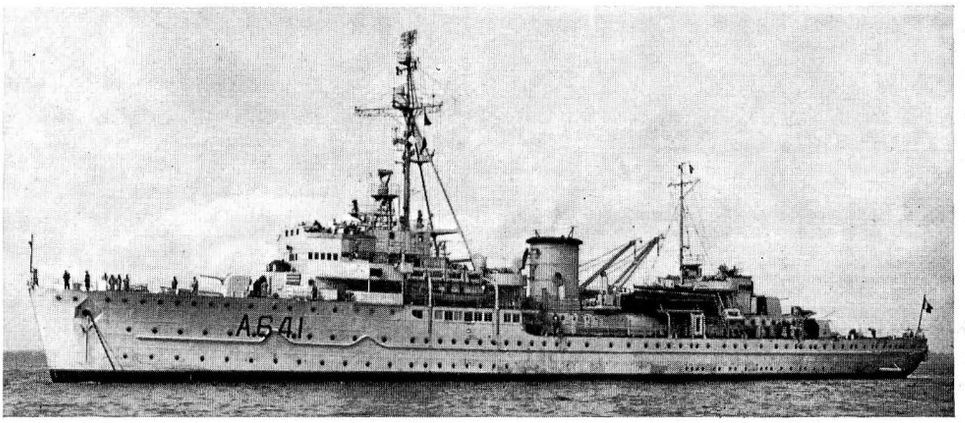
SUBMARINE DEPOT SHIP (*Ravitailleur-pour-Sousmarins*)

Ex-German Type

GUSTAVE ZÉDÉ (ex-*Saar*)

Builders:	Krupp-Germania
Launched:	5 Apr. 1934

Displacement: 2,895 tons *standard* (3,230 tons *full load*)
Dimensions: 308 × 44¼ × 14 feet
Guns: 3—4·1 inch, 4—40 mm. AA., 8—20 mm. AA.
Machinery: 2 sets Krupp diesels. 2 shafts. B.H.P.: 3,700=16 kts.
Fuel: 336 tons
Radius: 9,400 miles at 11 kts.
Complement: 364



GUSTAVE ZÉDÉ — *Added 1960, Wright & Logan*

Notes
Former German submarine school depot ship. Acquired from the U.S. Navy in Oct. 1947. Recommissioned in 1949. Alterations were made to the bridge and foremast in 1952 (see photo). Flagship of the 3rd F.E.R. or Groupe d'action anti-submarine (Anti-submarine Group).

Recent Disposal
The ex-submarine depot ship *Jules Verne*, recently employed as a fleet repair ship and a port depot ship, was scrapped in 1960.

SUBMARINES

Q 251

It was reported in Mar. 1962 that France is to build a submarine, the Q 251, for experiments on rocket-firing from underwater vessels. The results will be used in building a prototype nuclear submarine.

The Q 251, equipped with conventional diesel electro engines, will be constructed from the Q 244, an unfinished nuclear submarine at Cherbourg.

Projected Atomic Powered Type

The construction of Q 244 has been abandoned, and she was officially deleted from the list in May 1961. On the other hand, reports indicate that France will have a nuclear submarine by 1969.

9 New Construction "Daphne" Class

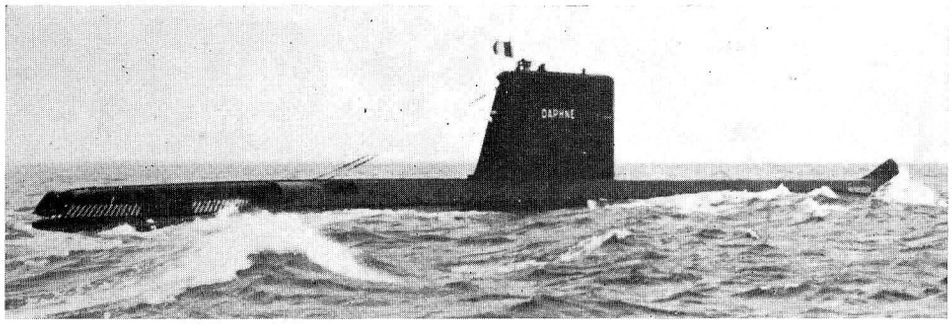
DAPHNÉ DORIS FLORE MINERVE
DIANE EURYDICE GALATÉE Q 249
Q 250

Displacement:	750 tons *standard*. 850 tons *surface*, 1,040 tons *submerged*
Dimensions:	190½ × 22¼ × 15½ feet
Tubes:	12 (8 bow, 4 stern)
Machinery:	SEMT-Pielstick 12-cyl. engines. Diesel-electric drive. Speed: 16 kts. *surface* and *submerged*
Complement:	45 (6 officers, 39 men)

Notes

Daphné and *Diane* were built by Dubigeon, and *Doris*, *Eurydice*, *Flore* and *Galatée* are being built by Cherbourg. *Minerve*, provided for under the 1957 naval estimates, was built by Dubigeon, *Daphné* was launched on 20 June 1959, *Doris* on 14 May 1960, *Diane* on 4 Oct. 1960, *Flore* on 21 Dec. 1960, *Minerve* on 31 May 1961, *Galateé* on 22 Sep. 1961.

First reports indicate that these are most successful boats. A photograph of *Flore* appears in the 1961-62 edition.



DAPHNE

1962, *French Navy, Official*

4 "Aréthuse" Class

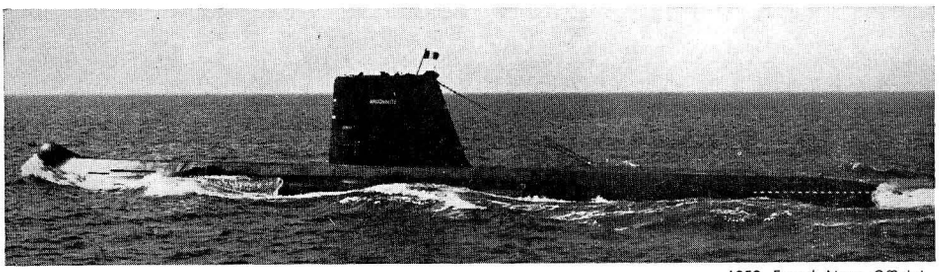
AMAZONE ARGONAUTE
ARÉTHUSE ARIANE

Displacement:	400 tons *standard*, 529 tons *surface*. 650 tons *submerged*
Dimensions:	164 × 19 × 12¾ feet
Tubes:	4
Machinery:	SEMT-Pielstick 12-cyl. diesel engines. Diesel-electric drive=16 kts. *surface*, 16 kts. *submerged*
Complement:	39 (5 officers, 34 men)

General Notes

Submarine-killer type for hunting enemy submarines. *Aréthuse* and *Argonaute* were built under the 1953 programme, *Amazon* and *Ariane* under the 1954 programme, all at Cherbourg. Streamlined hull, silent motors, and up-to-date electronic and detection equipment.

Pennant No.	*Name*	*Launched*	*Completed*
S 639	*Amazone*	3 Apr. 1958	July 1959
S 635	*Aréthuse*	9 Nov. 1957	23 Oct. 1958
S 636	*Argonaute*	29 June 1957	11 Feb. 1959
S 640	*Ariane*	12 Sep. 1958	16 Mar. 1960



ARGONAUTE

1959, *French Navy, Official*

Recent Disposals of "S" Class

Of the former British submarines of the "S" class, *Siréne* was returned to Great Britain at Gosport on 24 Oct. 1958 and reverted to the original name *Spiteful*, and *Sultane* was returned to Great Britain at Rosyth on 5 Nov. 1959 and reverted her original name *Statesman*. *Saphir* (ex-*Satyr*) was also returned to Great Britain on 11 Aug. 1961 to await disposal at Rosyth. *Sibylle* (ex-*Sportsman*) was lost accidentally with all hands on 23 Sep. 1952, near Toulon.

6 Oceangoing Type. "Narval" Class

DAUPHIN MARSOUIN NARVAL
ESPADON MORSE REQUIN

Displacement:	1,200 tons *standard*, 1,640 tons *surface*, 1,910 tons *submerged*
Dimensions:	256 × 23¾ × 18 feet
Tubes:	8 (6 interior, 2 exterior), 14 torpedoes. Torpedo tubes are quick loading
Machinery:	Schneider 2-stroke, 7 cylinder diesels. B.H.P.: 4,000=16 kts. *surface*. Electric motors. H.P.: 5,000=18 kts. *submerged*
Radius:	15,000 miles with schnorchel at 8 kts.
Complement:	58 (7 officers, 51 men)

General Notes

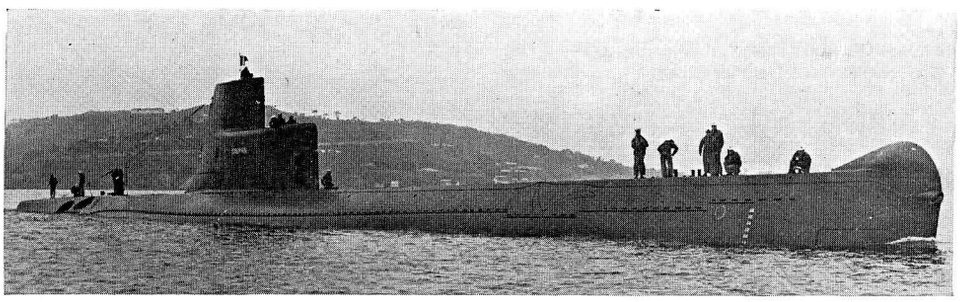
Improved versions of the German XXI type. *Dauphin*, *Marsouin*, *Narval* and *Requin* were built in seven prefabricated parts each of 10 metres in length.

Photograph Notes

Photographs of *Narval* as first completed without bulbous bow in 1957-58 edition, and *Requin* in 1959-60 and 1960-61 editions.

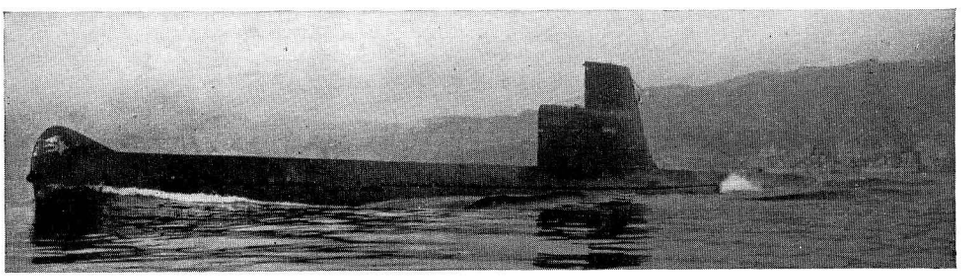
Pennant No.	*Name*	*Programme*	*Builders*
S 633	*Dauphin*	1950	Cherbourg
S 637	*Espandon*	1954	Normand
S 632	*Marsouin*	1949	Cherbourg
S 638	*Morse*	1954	Seine Maritime
S 631	*Narval*	1949	Cherbourg
S 634	*Requin*	1950	Cherbourg

Name	*Laid down*	*Launched*	*Completed*
Dauphin	1952	17 Sep. 1955	1 Aug. 1958
Espandon	Mar. 1957	15 Sep. 1958	Apr. 1960
Marsouin	1951	21 May 1955	Oct. 1957
Morse	Dec. 1956	10 Dec. 1958	2 May 1960
Narval	1951	11 Dec. 1954	1 Dec. 1957
Requin	1952	3 Dec. 195	1 Aug. 1958



DAUPHIN

Oct. 1957, *Marius Bar*



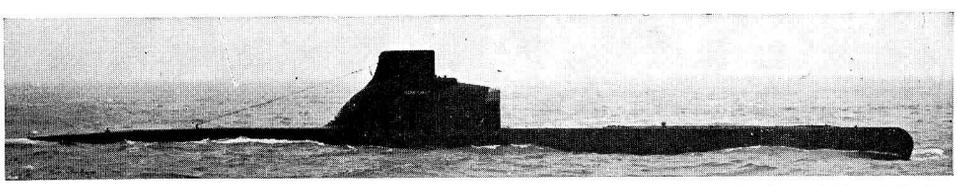
NARVAL

1957, *Marius Bar*

1 Ex-German Type XXI

ROLAND MORILLOT (ex-*U 2518*)

Pennant No.:	S 613
Builders:	Blohm & Voss, Hamburg
Completed:	1945
Displacement:	1,330 tons (*standard*), 1,600 tons (*surface*), 1,827 tons (*submerged*)
Dimensions:	237 (*pp.*), 252⅔ (*o.a.*) × 21⅔ × 20⅔ feet
Tubes:	6—21 inch (23 torpedoes carried)
Machinery:	2 M.A.N. 6-cyl. diesels. B.H.P.: 2,600=15 kts.; 2 electric motors. H.P.: 5,000=16 kts.
Oil fuel:	250 tons
Radius:	11,150 miles at 12 kts.; 16,500 miles at 9 kts.; submerged 365 miles at 5 kts., 30 miles at 15 kts., 9,000 miles at 8 kts. with Schnorkel.
Complement:	65



ROLAND MORILLOT

1956, *French Navy, Official*

Notes

Former German oceangoing Type XXI U-boat. Permanently transferred by Great Britain to the French Navy in 1945.

Recent Disposals

Blaison (ex-U 123), former German Type IX B, was discarded in 1957.

Bouan (ex-U 510), former German Type IX C, was scrapped in 1958.

It is officially stated that of the two former German Type VII C boats, *Laubie* (ex-U 766) was withdrawn from active service on 17 Oct. 1961 (she was seriously damaged by collision and scrapped) and *Mille* (ex-U 471) in 1962.

Submarines—*continued*

4 " Creole " Class
(2 " L'Africaine " Type, 2 " L'Andromede " Type)

L'ANDROMÉDE
L'ARTÉMIS
L'ASTRÉE
LA CRÉOLE

Displacement:	820 to 909 tons *standard*, 970 tons *surface*, 1,180 to 1,250 tons *submerged*
Dimensions:	235½ (*pp.*), 241 (*o.a.*) × 21⅓ × 13¾ feet
Guns:	1—3·5 inch (88 mm. ex-German), 2—20 mm. AA. (see notes)
Tubes:	10—21·7 inch (6 internal)
Machinery:	Sulzer diesels (Scheider in *L'Africaine* type) B.H.P.: 3,000=17·3 kts. *surface* Electric Motors H.P.: 1,400 (2,000 H.P. in *L'Andromède*)=10 kts., *submerged*
Oil fuel:	100 tons
Radius:	8,800 miles at 10 kts.
Complement:	62 (7 officers, 55 men)

General Notes
La Créole was towed to England after her launch in 1940, and was returned to her builders in 1946 for completion. Construction of *L'Africaine* and *L'Astrée* was also resumed. *L'Andromède* and *L'Artémis* resumed after 1949 and under 1950 Programmes, respectively, given streamlined superstructure, and snort, no guns. *L'Andromède* is armed with prototype equipment designed for the " Narval " class.

Gunnery Notes
Guns are now suppressed in all units of the class.

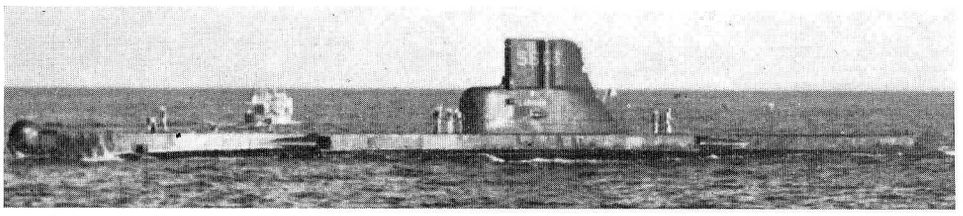
Appearance Notes
After suppression of her gun, the appearance of *Africaine* was identical with that of *Astrée*, it was officially stated in 1960.

Photograph Notes
Photograph of *La Créole* in the 1954-55 to 1957-58 editions. Photograph of *L'Africaine* in the 1953-54 to 1959-60 editions.

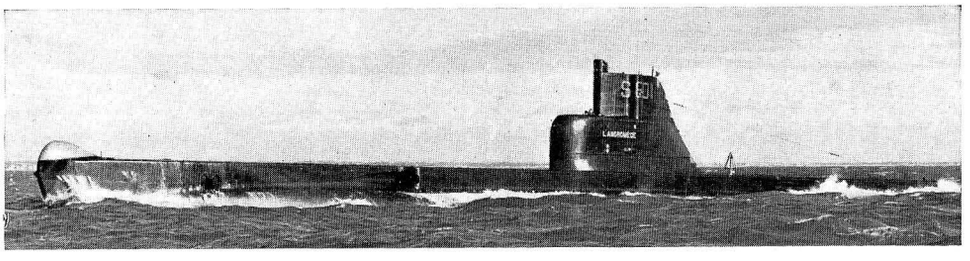
Pennant No.	*Name*	*Programme*	*Builders*
S 601	*L'Andromède*	1938	Dubigeon-Nantes
S 603	*L'Artémis*	1938	Normand, Dubigeon
S 608	*L'Astrée*	1938	Dubigeon-Nantes
S 606	*La Créole*	1937	Normand

Name	*Laid down*	*Launched*	*Completed*
L'Andromède	1945	17 Nov. 1949	1953
L'Artémis	1945	28 July 1952	1953
L'Astrée	1945	4 May 1946	1949
La Créole	Aug 1938	5 June 1940*	1946

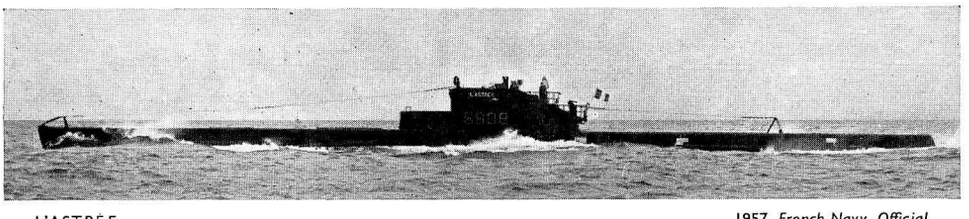
* Re-launched 3 May, 1946.



L'ARTEMIS — 1962, *A. & J. Pavia*



L'ANDROMÉDE — 1957, *French Navy, Official*



L'ASTRÉE — 1957, *French Navy, Official*

Recent Disposals
It was officially stated that *L'Africaine* of this class was withdrawn from active service on 1 July 1961. She was reported to be worn out.

Cancellation Notes
The construction of two new midget submarines, Q224 and Q225, of 30 tons displacement, which were to have been built under the 1956 and 1957 programmes, was abandoned.

CORVETTES (Rated as *Avisos*)

3 Later " Chamois " Class

BISSON
COMMANDANT AMYOT D'INVILLE
COMMANDANT DE PIMODAN

Displacement:	660 tons *standard* (900 tons *full load*)
Dimensions:	257 × 28½ × 12 (*max.*) feet
Guns:	1—4·1 inch, 2—40 mm. AA., 4—20 mm. (*Bisson*, 2—4·1 inch aft, 1—40 mm.)
A/S weapons:	6 D.C.T., 2 D.C. racks
Machinery:	2 Sets Sulzer diesels. 2 shafts. B.H.P.:4,000=20 kts.
Radius:	8,000 miles at 10 kts.: 4,800 miles at 15 kts.; 3,000 miles at 18 kts.
Oil fuel:	82 tons
Complement:	100 (8 officers, 92 men)

General Notes
Authorised under the 1938 programme. *Bisson* is attached to the Pilotage School as a pilot's training vessel. *Commandant Amyot D'Inville* and *Commandant de Pimodan* provide training at sea for the Midshipmen and Cadets of the Ecole Navale and other Schools in Brest.

Recent Disposals
Of the Early " Chamois " Class, *Chevreuil* was transferred to the Tunisian Navy on 13 Oct. 1959 and renamed *Dustur*; *Gazelle* was condemned in Mar. 1961; and *Chamois* was transferred to the Royal Moroccan Navy on 7 Nov. 1961 and renamed *El Lahiq*.



COMMANDANT AMYOT D'INVILLE — 1955, *Marius Bar*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 737	*Bisson*	Lorient Dockyard	1939	6 Mar. 1946	Sep. 1947
F 738	*Commandant Amyot D'Inville*	Ch. Dubigeon Penhoët	1939	13 May 1942	Dec. 1947
F 739	*Commandant de Pimodan*	A.C. Loire, St. Nazaire	1939	29 May 1942	Oct. 1947

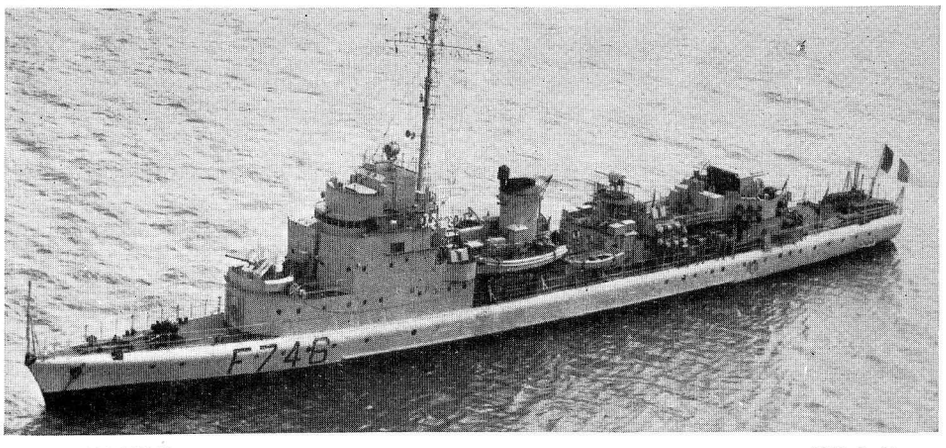
2 " Elan " Class

LA CAPRICIEUSE **LA MOQUEUSE**

Name:	*La Capricieuse*	*La Moqueuse*
Pennant No.:	F 745	F 747
Builders:	Chantiers Dubigion	Lorient Dockyard
Laid down:	Jan. 1938	Sep. 1938
Launched:	19 Apr. 1939	21 Jan. 1940
Completed:	Feb. 1940	Apr. 1940

Displacement:	640 tons *standard* (900 tons *full load*)
Dimensions:	256 × 28 × 10½ feet
Guns:	1—4·1 inch AA., 1—40 mm. AA., 4—20 mm. AA.
A/S weapons:	4 D.C.T., 2 D.C. racks
Machinery:	2 sets Sulzer diesels. 2 shafts. B.H.P.: 4,000=20 kts.
Oil fuel:	105 tons
Radius:	10,000 miles at 9 kts., 5,200 miles at 15 kts., 3,000 miles at 18 kts.
Complement:	100

General Notes
La Capricieuse and *La Moqueuse* were built under the 1937 Programme. Formerly rated as Avisos de Deuxième Classe. Re-rated Escorteurs de Deuxième Classe in 1951, Avisos Escorteurs on 11 Aug. 1953, and Avisos in 1955. Both now have 4·1 inch guns (German model).



LA GRACIEUSE — 1958, *Skyfotos*

Recent Disposals
Commandant Bory of this class was scrapped in 1953. Sister ships *Elan*, *La Boudeuse* and *La Gracieuse* were condemned in 1958, and it was officially stated in May 1961 that *Commandant Delage*, *Commandant Dominé* (ex-*La Rieusse*) and *Commandant Duboc* have been withdrawn from the active list. It was officially stated that *La Capricieuse*, which was put in " Normal Reserve " in 1958, is still in active service.

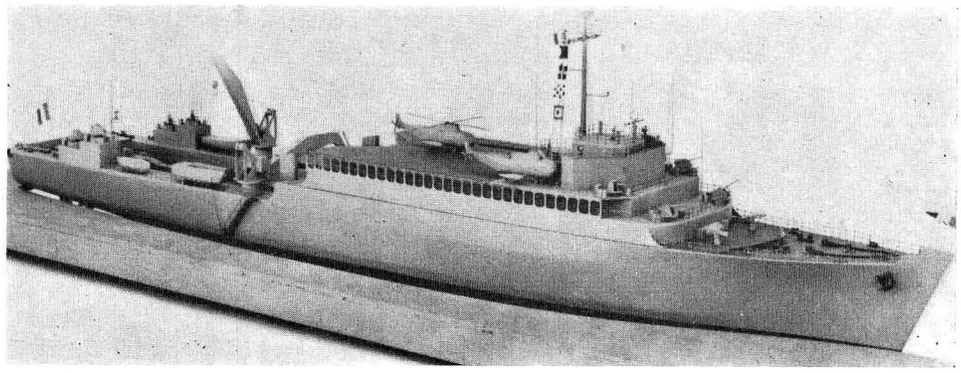
ASSAULT LANDING SHIPS

2 New Construction TCD
(*Transports de chalands de débarquement*)

	TDC 1	TDC 2
Displacement:	8,500 tons *full load* (15,000 tons when fully immersed)	
Dimensions:	489×70½×15 feet (28½ feet *max.*)	
Guns:	6—30 mm. AA., 2—4·7 inch mortars	
Machinery:	2 diesels. 2 shafts. B.H.P.: 8,000=17 kts.	
Radius:	8,000 nautical miles at 15 kts.	
Complement:	660 (30 officers, 630 men). 257 plus 403 passengers	

Notes

Being built at Brest Dockyard. TDC 1 started in Apr. 1962. To be launched in Jan. 1963. Scheduled to be completed for trials in 1964 and to be commissioned in Jan. 1965. To be fitted, beside landing craft, with heavy helicopters. All the above details were officially furnished by the French Navy. Will be able to carry 2 EDICs loaded with eleven light tanks each, or 18 loaded LCMs ,also 1,500 tons of material and equipment handled by two 35 ton cranes. A second vessel of this type has been authorised.

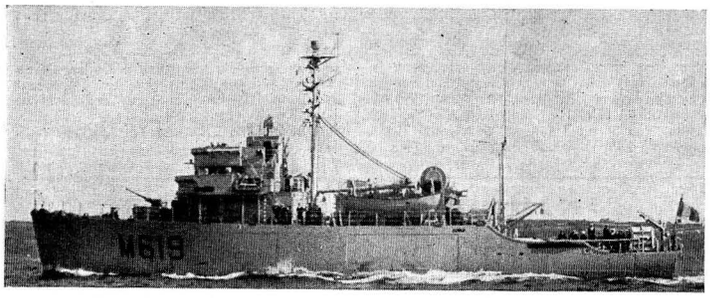


TCD 1 — 1962, *French Navy, Official*

OCEAN MINESWEEPERS (*Drageurs Oceaniques*)



COLMAR (tall funnel type) — 1962, *Stefan Terzibaschitsch*



VINH LONG — *Added 1960, courtesy Admiral M. Adam*

15 U.S. MSO (ex-AM) Type
"Berneval" Class

ALENÇON (ex-*AM* 453)	**BIR HACHEIM** (ex-*AM* 451)	**MYTHO** (ex-*AM* 475)
AUTUN (ex-*AM* 502)	**CANTHO** (ex-*AM* 476)	**NARVICK** (ex-*AM* 512)
BACCARAT (ex-*AM* 505)	**COLMAR** (ex-*AM* 514)	**ORIGNY** (ex-*AM* 501)
BERLAIMONT (ex-*AM* 500)	**DOMPAIRE** (ex-*AM* 454)	**OUISTREHAM** (ex-*AM* 513)
BERNEVAL (ex-*AM* 450)	**GARIGLIANO** (ex-*AM* 452)	**VINH LONG** (ex-*AM* 477)

Displacement:	700 tons *standard* (795 tons *full load*)
Dimensions:	165 (*w.l.*), 171 (*o.a.*)×35×10½ feet
Guns:	1—40 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,600=13·5 kts. (designed), 14 kts. on trials
Radius:	3,000 miles at 10 kts.
Complement:	54

General Notes

The U.S.A. agreed in Sep. 1952 to transfer to France in 1953 eight new AM, and four more in 1954. Three more were transferred in 1956. *Bir Hacheim* was transferred in Feb. 1954, *Garigliano* was transferred in Apr. 1954 and *Vinh Long* in 1955. *Origny* was launched on 25 Feb. 1955, *Autun* on 6 May 1955, *Baccarat* on 6 Aug. 1955 and *Berlaimont* on 7 Jan. 1955.

Appearance Notes

Autun. *Baccarat*, *Berlaimont*, *Colmar*, *Narvick*, *Origny* and *Ouistreham* are somewhat different from the others (photo of *Alençon* in 1958-59 edition) and have a taller funnel

Research Notes

Origny is now classified and fitted as an oceanographic research vessel but is Navy owned and manned.

Photograph Notes

Larger photographs of this class appear:—an aerial port quarter view of *Garigliano* in the 1955-56 edition, a broadside surface view of *Alençon* in the 1956-57 to 1958-59 editions, and a starboard bow view of *Narvick* in the 1959-60 edition.

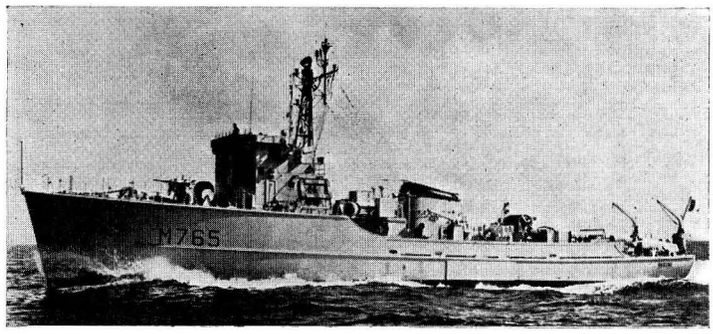
PORT DEPOT SHIPS

General Notes

Former battleships, cruisers, etc., now obsolete, are classed as port depot ships :—

There are the battleships *Jean Bart* at Toulon and *Richelieu* at Brest, the heavy cruiser *Suffren* at Toulon, the light cruiser *Montcalm* at Toulon, and the auxiliary aircraft carrier *Dixmude* (aviation transport), all used as barracks; the former aircraft carrier *Béarn* hulk at Toulon. Also the flotilla leader (ex-light cruiser) *Guichen*, the destroyer *Le Malin*, the landing ship *Laita*, and a number of other ships including *Duchesse Anne*, *Telemaque*, *Voltigeur*, *LCH* 9055, and *Volantaire*.

COASTAL MINESWEEPERS (*Dragueurs Côtiers*)



MERCURE — *courtesy M. Henri Le Masson*

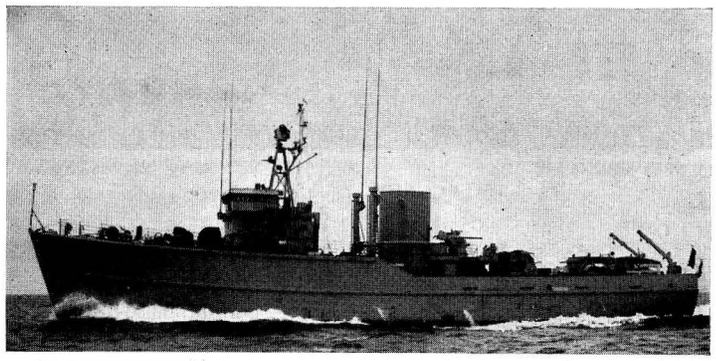
1 Special Type

MERCURE (21 Dec. 1957)

Displacement:	333 tons *light*, 362 tons *normal* (380 tons *full load*)
Dimensions:	137¾ (*pp.*), 145½ (*o.a.*)×27×8½ feet
Guns:	2—20 mm. AA.
Machinery:	2 Mercedes -Benz diesels. 2 shafts. Kamewa variable pitch propellors. B.H.P.: 4,000=15 kts.
Oil fuel:	48 tons
Radius:	3,000 miles at 15 kts.
Complement:	48

Notes

Ordered in France from Mécaniques de Normandie (who have built six sister ships for the Federal German Navy) under the "off-shore" programme. Laid down in Jan. 1955. Somewhat different from the "Sirius" class and with the same method of construction as the United States-built "Acacia" class. Stated to be a very successful model.



LA DUNKERQUOISE — *courtesy M. Henri Le Masson*

6 Ex-Canadian "Bay" Type
"La Dunkerquoise" Class

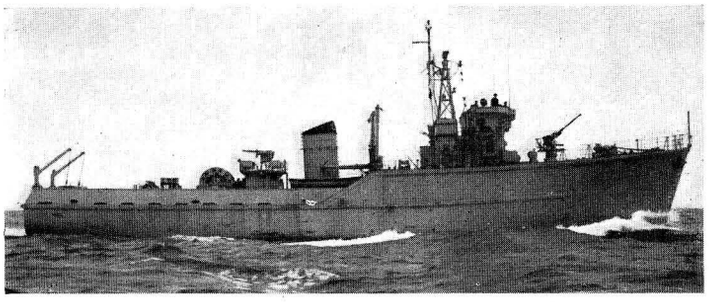
LA BAYONNAISE (ex-*Chignecto*)	**LA LORIENTAISE** (ex-*Miramchi*)
LA DIEPPOISE (ex-*Chaleur*)	**LA MALOUINE** (ex-*Cowichan*)
LA DUNKERQUOISE (ex-*Fundy*)	**LA PAIMPOLAISE** (ex-*Thunder*)

Displacement:	390 tons *standard* (412 tons *full load*)
Dimensions:	140 (*pp.*) 152 (*o.a.*)×28×8¾ feet
Guns:	1—40 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 2,400=16 kts. (*max.*)
Oil fuel:	52 tons
Radius:	4,500 miles at 11 kts.
Complement :	43 (4 officers, 39 men)

Notes

La Bayonnaise (launched on 12 May 1952) *La Malouine* (launched on 12 Nov. 1951) and *La Paimpolaise* (launched 17 July 1953) were transferred to the French flag at Halifax on 1 Apr. 1954, *La Dunkerquoise* (launched in Apr. 1953) on 30 Apr. 1954, and *La Dieppoise* (launched on 21 June 1952 and *La Lorientoise* (launched in 1953) on 10 Oct. 1954. All similar to the "Bay" class in the Royal Canadian Navy. *La Bayonnaise* and *La Dunkerquoise* left Brest in Apr. 1961 for the Pacific to relieve *Lotus* and *Tiare* in New Caledonia and Tahiti, respectively. *La Dieppoise* is at Djibouti, *La Maluoine* is at Diego Saurez, and *La Lorientaise* and *La Paimpolaise* are at Dakar.

Coastal Minesweepers—*continued*



VEGA *courtesy M. Henri Le Masson*

34 British Type
" Sirius " Class

ACHERNAR (12 Aug. 54)
ALDÉBARAN (27 June 53)
ALGOL (15 Apr. 53)
ALTAIR (27 Mar. 56)
ANTARÈS (21 Jan. 54)
ARCTURUS (12 Mar. 54)
ARIES (13 Mar. 56)
BELLATRIX (21 July 55)
BÉTELGEUSE (12 July 54)
CANOPUS (31 Dec. 53)
CAPELLA (6 Sep. 55)
CAPRICORNE (8 Aug. 56)
CASSIOPÉE (16 Nov. 53)
CASTOR (19 Nov. 53)
CENTAURE (8 Mar. 55)
CÉPHÉE (3 Jan. 56)
CROIX DU SUD (13 June 56)
DÉNEBOLA (12 July 56)
ERIDAN (18 May 54)
ETOILE POLAIRE (5 Mar. 57)
FOMALHAUT (24 Apr. 55)
LYRE (3 May 56
ORION (20 Nov. 53)
PEGASE (21 June 55)
PERSÉE (23 May 55)
PHÉNIX (23 May 55)
POLLUX (16 July 54)
PROCYON (12 Dec. 54)
RÉGULUS (18 Nov. 52)
RIGEL (13 May 53)
SAGITTAIRE (12 Jan. 55)
SIRIUS (6 Oct. 52)
VEGA (14 Jan. 53)
VERSEAU (26 Apr. 56)

Displacement:	365 tons *standard* (424 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28 × 8¼ feet
Guns:	1—40 mm. Bofors AA., 1—20 mm. Oerlikon AA. (Several have 2—20 mm. AA.)
Machinery:	S.I.G.M.A. free piston generators and Alsthom or Rateau-Bretagne gas turbines. 2 shafts. B.H.P.: 2,000=15 kts. (11·5 kts. when sweeping)
Oil fuel:	48 tons
Radius:	3,000 miles at 15 kts.
Complement:	38

Notes

Of wooden and aluminium alloy construction. Launch dates above. Of same general characteristics as the British " Coniston " class, but of different hull construction. Propelled by a special new type of engine, i.e. Alsthom or Rateau gas turbine with S.I.G.M.A. free piston generator, except *Altair, Arcturus, Aries, Bételgeuse, Canopus, Capella, Capricorne, Céphée, Croix du Sud, Etoile Polaire, Lyre, Phénix* and *Verseau*, which have Pielstick-SEMT light diesels. Similar to those built in Great Britain and the Netherlands of which the plans were basically similar for all. The original design of this type of craft was developed in close collaboration with John I. Thornycroft & Co. Ltd., Southampton, and the British Admiralty. 16 of these vessels were built under the " off-shore " procurement programme. Launch dates as above. *Altair, Arcturus* and *Croix du Sud* have been station-ships in the West Indies since 1960. *D 25, D 26* and *D 27* were allocated to Yugoslavia.

Photograph Notes

A large starboard bow view of *Régulus* appears in the 1957-58 to 1959-60 editions.



PERVENCHE *Added 1961, Marius Bar*

30 U.S. MSC (ex-AMS) Type
" Acacia " Class

ACACIA (ex-*AMS* 69)
ACANTHE (ex-*AMS* 70)
ACONIT (ex-*AMS* 66)
AJONC (ex-*AMS* 71)
AZALÉE (ex-*AMS* 67)
BEGONIA (ex-*AMS* 83)
BLEUET (ex-*AMS* 116)
CAMÉLIA (ex-*AMS* 68)
CHRYSANTHEME (ex-*AMS* 113)
COQUELICOT (ex-*AMS* 84)
CYCLAMEN (ex-*AMS* 119)
EGLANTINE (ex-*AMS* 117)
GARDÉNIA (ex-*AMS* 114)
GIROFLÉE (ex-*AMS* 85)
GLAIEUL (ex-*AMS* 120)
GLYCINE (ex-*AMS* 118)
JACINTHE (ex-*AMS* 115)
LAURIER (ex-*AMS* 86)
LILAS (ex-*AMS* 93)
LISERON (ex-*AMS* 98)
LOBELIA (ex-*AMS* 96)
MAGNOLIA (ex-*AMS* 87)
MARGUERITE (ex-*AMS* 94)
MIMOSA (ex-*AMS* 99)
MUGUET (ex-*AMS* 97)
PAVOT (ex-*AMS* 124)
PERVENCHE (ex-*AMS* 141)
PIVOINE (ex-*AMS* 125)
RENONCULE (ex-*AMS* 142)
RÉSÉDA (ex-*AMS* 126)

Displacement:	370 tons *standard* (405 tons *full load*)
Dimensions:	136½ (*pp.*), 141 (*o.a.*) × 26 × 8½ feet
Guns:	2—20 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,200=13 kts. (8 kts. when sweeping)
Oil fuel:	40 tons
Radius:	2,500 miles at 10 kts.
Complement:	38 (3 officers, 35 men)

General Notes

The U.S.A. agreed in Sep. 1952 to transfer to France in 1953, 36 new AMS (later re-designated MSC) but 30 only were finally allocated to France in 1953-55. Three were returned to the U.S.A. after delivery, to Saigon for Indo-China, and two of these were allocated to Japan (AMS 95 and 144). Three (AMS 139, 140, 143) were not delivered, having been allocated to Spain. Auxiliary motor minesweepers of wooden construction. New type of vessel constructed throughout of materials with the lowest possible magnetic attraction to attain the greatest possible safety factor when sweeping for magnetic mines. All "Flower" names, some of which had been given to the corvettes under the Free French flag: *Aconit* (which sank two submarines), *Lobelia, Mimosa. Glycine* perpetuates the name of ex-YMS of the U.S.A. which was mined and sunk in Indo-China with *Myosotis*.

Building Notes

Acacia was launched on 28 Mar. 1953, *Aconit* on 27 Mar. 1953, and *Azalée* on 9 June 1953.

Photograph Notes

A larger port broadside view of *Coquelicot* appears in the 1954-55 to 1959-60 editions.

Coastal Minesweepers—*continued*



CAMPANULE *French Navy, Official*

7 Ex-U.S. YMS Type

ANÉMONE (ex-*D* 311, ex-*YMS* 34)
ASPHODÈLE (ex-*D* 314, ex-*YMS* 226)
BASILIC (ex-*D* 317, ex-*YMS* 13)
CLEMATITE (ex-*D* 323, ex-*YMS* 62)
GENÈT (ex-*D* 355, ex-*D* 272, ex-*YMS* 208)
HÉLIOTROPE (ex-*D* 334, ex-*YMS* 33)
PERCE-NEIGE (ex-*D* 351, ex-*D* 201, ex-*YMS* 23)

Displacement:	280 tons *standard* (325 tons *full load*)
Dimensions:	134½ × 24½ × 12 feet
Guns:	1—3 inch d.p., 2—20 mm. AA., 2 M.G. (only 4—20 mm. AA. in *Heliotrope* and *Perce-Neige*)
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 1,000=12 kts. (10 kts. when sweeping)
Oil fuel :	22 tons
Radius:	2,500 miles at 10 kts.
Complement:	30 (2 officers, 28 men)

General Notes

Built of wood, *Basilic* was launched on 13 June 1942, *Jasmin* on 10 Apr. 1942. All acquired in 1944. *Anémone* is an experimental vessel, fitted with an A/S torpedo tube aft. *Marjolaine* was converted into a hydrographic vessel in 1957. She was subsequently reclassified as a patrol vessel similar to *Lotus* and *Tiaré*, and was used on surveying off Madagascar, but on 18 Feb. 1961 she was transferred to the Malgache Navy (see *Transfer Notes*).

Appearance Notes

All the vessels of this class have two funnels except *Genét*, which has a single funnel.

Reclassification Notes

Anémone, Genèt, Asphodèle, Basilic, Clematite, Heliotrope and *Perce-Neige* are now re-rated as service vessels, it is officially stated, the latter five being used as training ships for Midshipmen and Cadets of the Ecole Navale.

Transfer Notes

Aubepine, Belladone and *Digitale* were transferred to the Vietnamin Navy on 11 Feb. 1954, and renamed *Ham Tu, Bach Dong* and *Chuang Dong*, respectively.

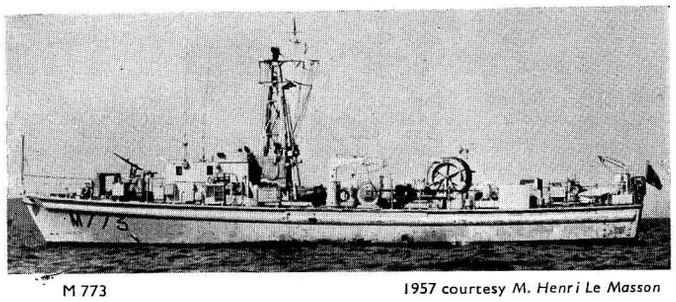
Marjolaine, P 656 (ex-*M* 656, ex-*D* 337, ex-*YMS* 69) was transferred to the Malgache Navy (Madagascar) on 18 Feb. 1961 at Diego Saurez, and renamed *Tanamasoandro*, which means Sunray.

Recent Disposals

Capucine and *Geranium* were scrapped in 1955. *Armoise, Balsamine* and *Dahlia* were scrapped in 1959. *Gentiane* was condemned in 1960. *Amarante, Campanule* and *Hortensia* were condemned in Mar. 1961; *Primerere* and *Pimprenelle* were withdrawn from active service on 22 June 1961, and *Jasmin* in Jan. 1962. it is officially stated.

Lotus, P 658 (ex-*Zinnia*, *M* 652, ex-*D* 356, ex- *D* 273, ex-*YMS* 227) and *Tiaré*, P 659 (ex-*Petunia*, *M* 646, ex-*D* 355, ex-*D*271, ex-*YMS* 207) were condemned on 30 Nov. 1961.

INSHORE MINESWEEPERS
(*Dragueurs de Rade et d'Estuaire*)



M 773 1957 courtesy *M. Henri Le Masson*

1 New Construction

Displacement:	180 tons

Notes

Prototype ordered in Aug. 1961 for trials in 1963 from Constr. Mécan. de Normandie.

15 British Type. " Ham " Class

M 771 (ex-*Ftettenham*)
M 772 (ex-*Wexham*)
M 779 (ex-*Mersham*)
M 744 (ex-*Isham*)
M 775 (ex-*Kingham*)
M 776 (ex-*Stedham*)
M 781 (ex-*Rendlesham*)
M 782 (ex-*Petersham*)
M 783 (ex-*Mileham*)
M 784 (ex-*Tibenham*)
M 785 (ex-*Sparham*)
M 786 (ex-*Whippingham*)
M 787 (ex-*Sulham*)
M 788 (ex-*Riplingham*)
M 789 (ex-*Pineham*).

Displacement:	120 tons *standard* (140 tons *full load*)
Dimensions:	100 (*pp.*), 106½ (*o.a.*) × 21¼ × 5½ feet
Guns:	1—40 mm. Bofors AA. or 1—20 mm. Oerlikon AA. forward
Machinery:	2 Paxman diesels. B.H.P. : 550=14 kts. (9 kts. when sweeping)
Oil fuel	15 tons
Complement:	12 (2 officers, 10 men)

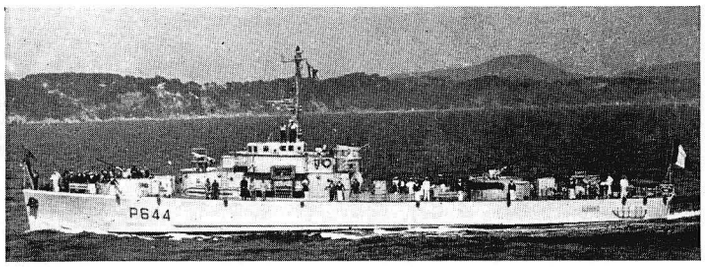
Notes

Former British inshore minesweepers of the " Ham " class transferred to France under the American " off-shore " procurement programme. First, M 771, was delivered in Dec. 1954. Last, M 789, was handed over at Hythe on 10 Nov. 1955.

Recent Disposals

The eight remaining converted inshore minesweepers of the former patrol (*chasseur*) type, M 690, M 691, M 695, M 696, M 711, M 713, M 714 and M 715, were condemned in 1959. M 697 was condemned in 1958.

PATROL VESSELS (*Escorteurs Côtiers*)



L'ADROIT *Added 1960, French Navy, Official*

14 " Le Fougueux " Class

L'ADROIT (6 Sep. 1958)
L'AGILE (26 June, 1954)
L'ALERTE (5 Oct. 1957)
L'ATTENTIF (10 July 1958)
L'ARDENT (17 July 1958)
L'EFFRONTÉ (27 Jan. 1959)
L'ENJOUE (5 Oct. 1957)
L'ETOURDI (5 Feb. 1958)
LE FOUGUEUX (31 May 1954)
LE FRINGANT (6 Feb. 1958)
LE FRONDEUR (26 Feb. 1959)
LE HARDI (17 Sep. 1958)
L'INTRÉPIDE (12 Dec. 1958)
L'OPINIATRE (4 May 1954)

Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 (*pp.*) × 23 × 6½ feet
Guns:	2—40 mm. Bofors AA., 2—20 mm. AA.
A/S weapons:	1 hedgehog, 4 D.C. mortars (and 2 D.C. racks), Asdic in *L'Agile, Le Fougueux, L'Opiniatre*; others have a new 120 mm. ASM mortar forward, 2 D.C.T., 1 D.C. rack
Machinery:	4 Pielstick-SEMT light and fast diesel engines coupled 2 by 2: B.H.P.: 3,240=18·7 kts. 22 kts. on trials)
Radius:	3,000 miles at 12 kts., 2,000 miles at 15 kts.
Complement:	62 (4 officers, 58 men)

General Notes

Three of nine patrol vessels ordered in France (U.S.A. off-shore order) were commissioned by the French Navy. *P* 1 (*Le Fougueux*), *P* 2 (*L'Opiniatre*), *P* 3 (*L'Agile*). Five more were built under the 1955 naval estimates and six were built under the 1956 estimates. These have a different armament, slightly different appearance, and bridge which bears a resemblance to that of *Guépratte* and *Forbin*, though smaller.

Photograph Notes

Larger photographs of *Le Fougueux*, port broadside and starboard bow views, appear in the 1956-57 and 1957-58 editions, and a larger photograph of *L'Opiniatre* appears in the 1958-59 and 1959-60 editions.

2 Ex-U.S. PC Type. " Carabinier " Class

DAGUE (ex-*PC* 1561) **HUSSARD** (ex-*PC* 1235)

Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 *w.l.*), 173¾ (*o.a.*) × 23 × 6½ feet
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 3,600=20 kts.

General Notes

Of steel construction. *Hussard* was launched on 3 Apr. 1943. Survivors of a numerically large class. Formerly rated as Escorteurs, but re-rated as Patrouilleurs in 1951. *Hussard*, which was fitted for torpedo tube training aft (see photograph in the 1954-55 to 1959-60 editions), was classed as a tender with the auxiliary pennant number A 624, and *Dague* A 623. It was officially stated in May 1961 that *Dague* and *Hussard* have been re-rated as experimental vessels used for torpedo acceptance trials. They are no longer combatant vessels. See full particulars, transfers and disposals in the 1961-62 editions.

PATROL LAUNCHES (*Chasseurs de Sousmarins*)

1 New Construction

Displacement:	185 tons *full load*
Dimensions:	144½ × 23 × 6½ feet
Guns:	1—40 mm. AA. aft
A/S weapons:	1 A.S.M. mortar of hedgehog type forward, 2 D.C. racks
Machinery:	2 diesels, 2 shafts. Variable pitch propellers.
Radius:	2,000 miles at 12 kts.
Complement:	25

Notes

Prototype of a new series of *chasseurs de sous-marins*. Authorised under the 1960 Programme. Of wooden construction.



P 723 (showing quadruple rocket launchers) 1954, *courtesy M. Henri Le Masson*

5 Ex-U.S. SC Type

M 691 (ex-*CH* 101, ex-*SC* 524)
P 696 (ex-*CH* 142, ex-*SC* 498)
P 703 (ex-*CH* 95, ex-*SC* 508)
P 706 (ex-*CH* 135, ex-*SC* 1030)
P 713 (ex-*CH* 131, ex-*SC* 692)

Displacement:	110 tons *standard* (138 tons *full load*)
Dimensions:	107½ (*w.l.*), 110⅝ (*o.a.*) × 18¾ × 6½ feet
Guns:	1—40 mm. AA., 3—20 mm. AA.
A/S weapons:	2 D.C.T., 1 D.C. rack (18 D.C.)
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,000=15 kts.
Radius:	2,000 miles at 10 kts.; 1,150 miles at 15 kts.
Complement:	25

Notes

Of wooden construction. All launched in 1941-43. Acquired from the U.S.N. in 1944. Formerly rated as Submarine Chasers, but re-rated as patrol vessels in 1951. *P* 690, 691, 695, 696, 697, 711, 713, 714, 715 were converted into inshore minesweepers in 1954, but were discarded as such in 1958-59, although Nos. 690, 691, 696 still exist but as auxiliaries and not on the Navy list of fighting vessels.

Recent Disposals

P 731 was scrapped in 1956 and sister ship *P* 736 was given back to United States Navy in 1956. *P* 704 was scrapped in 1957 and *P* 701 was condemned in 1958. *P* 702 was scrapped n 1959. M 714 was withdrawn from active service on 1 Oct. 1961 and M 711 on 1 Jan 1962. Nos. 693, 694, 709, 718, 722, 723 and 724 are still used as hulks or vedettes without armament for auxiliary purposes.

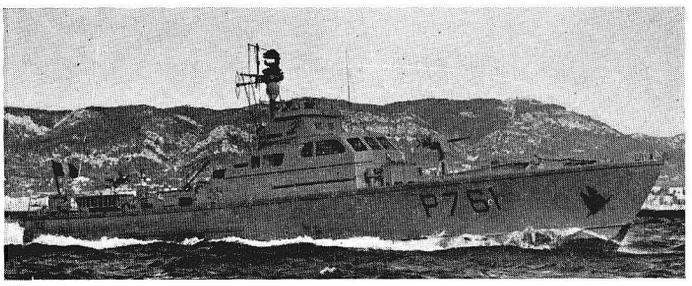
Clasification Notes

P 696 is rated as a patrol vessel and is the only boat armed as shown above. M 691 is a buoyage vessel, it is officially stated. P 703, P 706 and P 713 are accommodation vessels for diver teams (converted in 1959 and 1960).

Transfer Notes

P 699 was transferred to the Ivory Coast Republic and re-named *Patience*, and P 700 was transferred to the Senegalian Republic and re-named *Senegal*.

SEAWARD PATROL CRAFT



VC II (P 761) 1959, *Marius Bar*

10 VC Type (*Vedettes Côtiers et Vedettes de Port*)

P 751 VC 1
P 752 VC 2
P 753 VC 3
P 754 VC 4
P 755 VC 5
P 756 VC 6
P 757 VC 7
P 758 VC 8
P 759 VC 9
P 760 VC 10

Displacement:	75 tons *standard* (82 tons *full load*)
Dimensions:	104½ × 15½ × 5½ feet
Guns:	2—20 mm. AA.
Machinery:	2 Mercedes-Benz diesels. 2 shafts. B.H.P.: 2,700=28 kts.
Radius:	1,500 miles at 15 kts.
Complement:	15 (VC 1 to 10), 17 (VC 11 and 12)

Notes

Seaward defence motor launches of a new type. All completed in 1958 and 1959. Built by the Constructions Mécaniques de Normandie, Cherbourg (VC 3-10), Lürssens in Germany (VC 1 and 2), Chantiers Navals d'Esterel (VC 11 and 12). The two latter are slightly different as far as hull forms are concerned. Most of them are employed off the North African coast.

Transfer Notes

P 761 (VC 11) was sold to Tunisia, being handed over to the Tunisian Navy on 22 Sep. 1959. *P* 762 (VC 12) was transferred to the Royal Moroccan Navy on 15 Nov. 1960 and renamed *Es Sabiq*.

1 British Type

***VP 768** (ex-*VP* 6, ex-*HDML* 1228)

Displacement:	40 tons *standard* (52 tons *full load*)
Dimensions:	72 (*o.a.*) × 15½ × 4½ (*mean*) feet
Guns:	2—20 mm., 4 M.G.
Machinery:	2 diesels. 2 shafts. B.H.P.: 300=12 kts.
Complement:	8 (1 officer, 7 men)

Notes

* On loan from Great Britain. Survivor of 32 former British harbour defence motor launches, most of which served in Indo-China. Several were sunk by the enemy in Indo-China. Others were scrapped. *VP* 764 was discarded in 1957.

Transfer Notes

VP 762 was loaned to the Royal Khmére Navy. *VP* 748 was transferred to the Royal Khmere Navy in 1956, and *VP* 749 and *VP* 765 later. *VP* 747 (ex-*HDML* 1423) was transferred to the Cameronian Republic in 1961 and *VP* 775 (ex-*VP* 25, ex-*HDML* 1021) was transferred to the Gaboon in 1961.

2 Ex-U.S. Type

VP 772 ex-*VP* 51) **VP 773** (ex-*VP* 52)

Displacement:	40 tons *standard*
Dimensions:	52½ × 14½ × 5¼ feet
Guns:	1 M.G.
Machinery:	2 petrol engines. B.H.P.: 250=12 kts.
Complement:	10 (1 officer, 9 men)

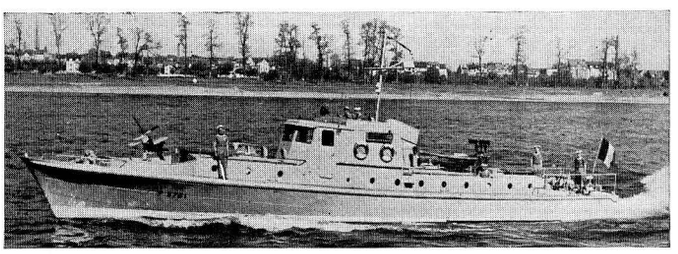
Notes

Former motor launches of the U.S. Navy. Stationed in Tahiti.

PATROL BOATS (Ex-*Flotilla du Rhin*)

P 9783 **P 9784** **P 9785** **9786** **P 9787** **P 9788**

Displacement:	45 tons
Dimensions:	79½ × 16 × 4 feet
Guns:	8 M.G.
Machinery:	2 Daimler-Benz diesels. 2 shafts. B.H.P.: 1,000=18 kts.



P 9781 1956, *courtesy M. Henri Le Masson*

P 9781 **P 9782**

Displacement:	34·5 tons
Dimensions:	80½ × 12⅝ × 4½ feet
Guns:	5 M.G.
Machinery:	2 Mayback diesels. 2 shafts B.H.P.: 900=21 kts.

9796 (ex-41) **P 9797** (ex-42) **P 9798** (ex-43)

Displacement:	23 tons
Dimensions:	65½ × 11 × 3½ feet
Guns:	5—13·2 mm. Hotchkiss M.G.
Machinery:	2 M.A.N. diesels. 2 shafts. B.H.P.: 400=19 kts.
Complement:	8

Notes

Built 1950-51, two by Rasmussen, Bremse Vegesack, two by Bodenwerft. P 9799 (ex-44) was deleted from the list in 1961.

Recent Disposals

P 9740, P 9741, P 9742 and P 9743 of the 12-ton diesel type were deleted from the list in 1961.

Ex-*Flotilla du Rhin* (*continued*)



P 9794 1956, *courtesy M. Henri Le Masson*

P 9794

Displacement:	10 tons
Dimensions:	47 × 10½ (hull), 14¾ (*o.a.*) × 2½ (hull), 5½ (wings) feet
Guns:	2—½ inch M.G.
Machinery:	2 Scripps motors. B.H.P.: 300=45 kts.

Notes
Equipped with hydroplane wings. *P* 9790, 9791, 9792 and 9793 also carry wings: speeds 32 and 37 kts.

HOCHE L 981 **KLEBER** L 982 **MARCEAU** L 980

Displacement:	175 tons
Dimensions:	131½ × 26½ × 4 feet
Guns:	1—3 inch, 12 M.G., 1—3·1 inch mortar
Machinery:	2 Mercedes-Benz diesel motors. B.H.P.: 1,720=13 kts.
Complement:	14

Notes
Former Rhine Flotilla support ships, brought back to France and laid up in 1958. Named in 1960.

Recent Disposals
Monitor, 990, actually a self-propelled pontoon with a Sherman tank turret mounted amidships, for service in the Rhine Flotilla, was discarded in 1959.

RAMBERVILLERS Y 6659

Displacement:	24 tons
Dimensions:	67⅔ × 11½ × 5½ feet
Machinery:	2 Deutz diesels. 2 shafts. B.H.P.: 300=12 kts.

Notes
This auxiliary patrol launch was a war prize with the *Ormont* which was retired from service in Feb. 1958.

Flotilla Notes
There are also 11 police vedettes of 6·3 tons (Y 6670-Y 6683); 2 control patrol launches of 10·2 tons (Y 6640, Y 6641); two vedettes of 2 tons (*P* 9790, *P* 9791); two vedettes of 6 tons (*P* 9792, *P* 9793); eight river tugs; and 31 landing craft (*LCM*).

Transfer Notes
Nine control patrol launches of 10·2 tons, Y 6642-Y 6650, one river tug, and 9 landing craft (LCM) were transferred to the Bundeswehr in 1957-58.

ELECTRONICS MAINTENANCE SHIP
(Bâtiment de soutien logistique, version électronique)

RHIN

Displacement:	2,375 tons (*mean*)
Dimensions:	302 × 42⅔ × 12 feet
Guns:	3—40 mm. AA.
Machinery:	Diesels. 1 shat B.H.P.: 3,300=16.5 kts.

Notes
Built by Lorient Dockyard. Authorised under the 1959 Programme. Floated up from building dry dock on 17 Mar. 1962. Scheduled to be completed in 1963, it is officially stated.

SUBMARINE MAINTENANCE SHIP
(Bâtiment de soutien logistique, version soutien de sous-marins)

1 New Construction

RHONE

Notes
Built by Lorient Dockyard. Authorised under the 1960 Programme. Laid down in the same building dry dock from which *Rhin* (see above) was floated up on 17 Mar. 1962.
It is officially stated that this ship will have the same general characteristics as the new electronics maintenance ship.

MINESWEEPER MAINTENANCE SHIP
(Bâtiment de soutien logistique, version soutien de dragueurs)

1 New Construction

Notes
Authorised under the 1962 Programme. It is officially stated that this ship will have the same general characteristics as the electronics and submarine maintenance ships.

AUXILIARIES

1 New Construction

Notes
An ammunition carrier of 10,000 tons has been approved under the 1960 programme. To be commissioned in 1966.

ENCLUME

Displacement:	350 tons
Dimensions:	163½ × 21½ × 4⅔ feet
Machinery:	3 MWM motors. B.H.P.: 660=10 kts.

Notes
Repair ship. No armament. (The *Les Vosges* (ex-*Washington*, ex-*Brunehilde*), former German Danube and Black Sea gunboat, afterwards a U.S. patrol vessel on the Danube, dismantled, transferred to the Rhine and rebuilt there as flagship of the French Rhine Flotilla, was transferred to the Bundeswehr in Dec. 1957).

AMIRAL EXELMANS (ex-*Germania*)

Displacement:	220 tons
Dimensions:	130⅔ × 21½ × 4½ feet
Machinery:	1 M.A.N. diesel. 1 shaft. B.H.P.: 230=9·5 kts.

Notes
Ex-river passenger boat purchased in 1952. Used for the training of pilots. Pennant No A793.

SURVEYING VESSELS (*Annexes Hydrographiques*)



AMIRAL MOUCHEZ *Skyfotos*

1 Special Type

AMIRAL MOUCHEZ

Displacement:	719 tons *standard* (970 tons *full load*)
Dimensions:	203½ × 33⅔ × 11 feet
Guns:	4—20 mm. AA. Oerlikon, 2—13 mm. AA. M.G. (actual armament mounted, see *Notes*)
A/S weapons:	Removed
Machinery:	Sulzer diesel. 2 shafts. B.H.P.: 800=13 kts.
Oil fuel:	60 tons
Radius:	3,400 miles at 13 kts.; 5,000 miles at 11 kts.
Complement:	91

Notes
Specially constructed as a survey ship at Cherbourg. Laid down in Jan. 1935, launched on 3 Aug. 1936, and completed in 1937. Formerly rated as Aviso Hydrographique. Re-rated Escorteur de Deuxiéme Classe early in 1953, as Aviso Escorteur 11 Aug. 1953, and Aviso in 1955, but employed as survey ship. Former armament of 2—3·9 inch guns and ant-submarine weapons removed. Pennant No. F 752.

2 New Construction

Displacement:	350 tons *standard*
Dimensions:	137⅔ × 27 × 8¼ feet
Guns:	1—40 mm. AA., 2 M.G.
Machinery:	2 diesels. 1 shaft. Variable pitch. Speed=13 kts. (*max.*).
Radius:	4,000 miles
Complement:	38

Notes
Authorised under the 1961 Programme. Specially built for surveys in tropical waters

2 Converted Trawler Type

Notes
Converted from fishing trawlers of 76 feet into surveying vessels of a new type.

1 Ex-Passenger Ship Type

LA RECHERCHE (ex-*Guyane*)

Displacement:	780 tons *standard*, 1,047 tons (*full load*) (official figure)
Measurement:	965 tons gross
Dimensions:	203¾ (*pp.*), 221½ (*o.a.*) × 29½ (34¼ including bulges) × 13 feet
Machinery:	1 Werkspoor 4 str. 8 cyl. diesel. B.H.P.: 1,535=13·5 kts.
Complement:	72 (5 officers and 67 men)

Notes
Former passenger motor vessel built by Chantiers Ziegler at Dunkirk. Launched on 17 Sep. 1951 Purchased in 1960 and converted by Cherbourg Dockyard into a surveying ship. Commissioned into the French Navy in Mar. 1961 and her name changed from *Guyane* to *La Recherche*. To improve stability she has been fitted with bulges.

1 Ex-German Whaler Type

ESTAFETTE (ex-*B* 282, ex-*Treb.* 6)

Displacement:	500 tons *standard* (654 tons *full load*)
Dimensions:	137 × 26 × 15½ feet
Guns:	2—20 mm.
Machinery:	Deutz motor. B.H.P.: 500=12 kts.
Oil fuel:	140 tons

Notes
Ex-whaler. Sister ship *Sentinclle* (ex-*B* 284, ex-*Treff.* 2) was scrapped in 1960. *Alidade* ex-German M 4621, ex-*Van Rozeland*) was scrapped in 1959. *Ingénieur-Hydrographe Nicolas* (ex-*Otto Brohan*, ex-*B* 206) and *Octant* (ex-German *M* 4626, ex-*Ostfriesland*)were scrapped in 1960.

DIVING TENDER (*Batiment de Récherches Sous Marines*)

INGÉNIEUR ÉLIE MONNIER (ex-German trawler *Albatros*)

Displacement:	280 tons *standard* (350 tons *full load*)
Dimensions:	111½ × 24 × 10 feet
Machinery:	Diesel. 1 shaft. Speed: 12 kts.
Range:	1,500 miles
Complement:	19

Notes
Former German trawler. Built by D. W. Kremer Schiffwert Elmshom in 1944. Fitted for ocean research. Photograph in the 1957-58 to 1961-62 editions.

TRAINING SHIPS (*Voiliers-École*)

LA BELLE-POULE **L'ÉTOILE**

Displacement:	227 tons
Dimensions:	128 (*o.a.*) × 23⅔ × 11⅔ feet
Machinery:	Sulzer diesel. B.H.P.: 120=6 kts.

Notes
Auxiliary sailing vessels. Built by Chantiers de Normandie (Fecamp), 1932. Accommodation for 3 officers, 30 cadets, 5 petty officers 12 seamen. Attached to the Navy School.

DOLPHIN (ex-*Simone Marcelle*)

Notes
Ex-tunny fishing vessel purchased Oct. 1954 and altered. *Notre Dame d'Etel* scrapped Attached to the School of Manoeuvre.

MUTIN

Notes
Attached to the School of Pilotage.

LANDING SHIP DOCK



FOUDRE 1959, *R. M. Scott*

1 Ex-U.S. LSD

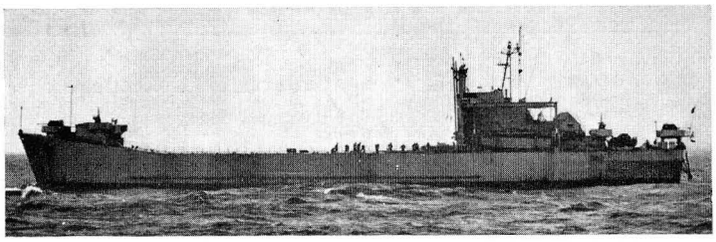
FOUDRE (ex-Greek *Okeanos*, ex-British *Oceanway*, ex-U.S. *LSD* 12)

Displacement:	4,500 tons *standard* (7,930 tons *full load*)
Dimensions:	457¾ (*o.a.*) × 72 × 18 feet
Guns:	1—4·1 inch, 2—4·7 inch mortars, 4—40 mm. AA., 4—20 mm. AA.
Machinery:	Turbine. 2 shafts. H.P.: 7,400 = 17 kts.
Boilers:	2
Radius:	8,000 miles at 15 kts.
Complement:	212 (12 officers, 200 men)

Notes

Built by Newport News S.B. & D.D. Co. Launched on 29 Dec. 1943. Transferred by the United States to Great Britain in 1944. Acquired by Greece from whom she was purchased by the U.S. in 1952 and transferred to France under MDAP. Pennant No. A 646.

LANDING SHIPS



TRIEUX 1960, *French Navy, Official*

BDC (Rated as *Bâtiments de Dèbarquement pour Chars*)

ARGENS (BDC 2) **BIDASSOA** (BDC 5) **DIVES** (BDC 4)
BLAVET (BDC 3) **TRIEUX** (BDC 1)

Displacement:	1,400 tons *standard*, 1,765 tons *light* (4,000 tons *full load*)
Dimensions:	328 (*o.a.*) × 50 × 14 feet
Guns:	2—40 mm. AA., 2—20 mm. AA. (*Bidassoa*, *Blavet* and *Dives* carry 1—4·7 inch (120 mm.) mortar forward, and 3—40 mm. AA. guns instead of the previous armaments)
Machinery:	Two sets of SEMT-Pielstick diesel engines. B.H.P.: 2,000 = 11 kts.
Radius:	18,500 miles at 10 kts.
Complement:	85 (6 officers and 79 men). Can carry 170 troops (normal) and 335 (even up to 870) if required. 329 passengers in bunks, 552 in hammocks

Notes

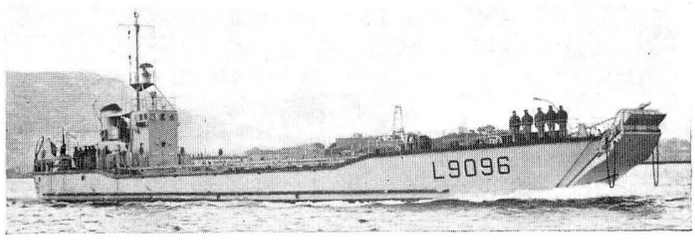
Trieux was built under the 1956 programme by Chantiers de Bretagne, Nantes, and launched on 6 Dec. 1958. Two more provided under the 1957 naval estimates were allocated to the same builder, *Argens* having been launched on 7 Apr. 1959 and *Blavet* on 16 Jan 1960. Two more were allocated in 1958 to Chantiers Seine Maritime, *Dives* was launched on 28 June 1960 and *Bidassoa* was launched on 29 Dec. 1960. Can carry four LCVPs and 1,800 tons deadweight of freight. All five were in active service in 1961.

Recent Disposals of LCT Type

Of the three surveying landing ships of the former U.S. LST type, *Odet* (ex-*LST* 815) was withdrawn from active service on 1 July 1961; *Laita* (ex-*LST* 177) was also withdrawn in Jan. 1962 and will be used as a port depot ship (see earlier page); and *Cheliff* (ex-LST 874) was scheduled to be scrapped early in 1962.

Adour (ex-*LST* 860), seriously damaged, was raised to become an accommodation ship (removed to France), but was scheduled to be scrapped in 1958. *Vire* was scrapped in 1957 *Golo* (ex-*LST* 973) was discarded in 1960. *Orne* (ex-*LST* 508) and *Rance* (ex-*LST* 223) was condemned in Mar. 1961, it is officially stated.

LANDING CRAFT



EDIC 6 1959, *Marius Bar*

6 EDIC (*Engins de Debarquement Infanterie Chars*)

EDIC 1 (7 Jan. 1958) **EDIC 3** (17 Apr. 1958) **EDIC 5** (11 Apr. 1958)
EDIC 2 (21 Feb. 1958) **EDIC 4** (24 July 1958) **EDIC 6** (11 Oct. 1958)

Displacement:	292 tons *standard* (642 tons *full load*)
Dimensions:	193¼ × 39¼ × 4½ feet
Guns:	2—20 mm. AA.
Machinery:	MGO diesels. 2 shafts. B.H.P.: 1,000 = 8 kts.
Complement:	16 (1 officer, and 15 men)

Notes

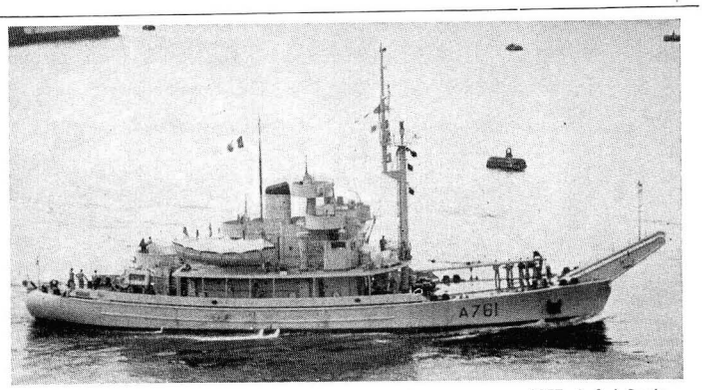
EDIC 1 to 4 were built by C. N. Franco Belge, EDIC 5 and 6 by Toulon Dockyard. Launch dates above. All completed in 1958 and 1959. Pennant numbers L 9091 to L 9096.

LCT 9062 **LCT 9065** **LCT 9099**

Recent Disposals

LCT 9060, 9061, 9063, 9064, 9066, 9067 were discarded in 1956. *LCT* 9085 and *LCT* 9091 were transferred to the Royal Khémre Navy. *LCG* 9059 and *LCT* 9083 were scrapped. *LCT* 9068 was condemned in 1957. *LCT* 9072 was condemned in 1960. *LCT* 9069 and *LCT* 9071 were condemned in Mar. 1961. *LCT* 9070 was withdrawn from active service on 6 July 1961

BOOM DEFENCE VESSELS



CRIQUET 1957, *A. & J. Pavia*

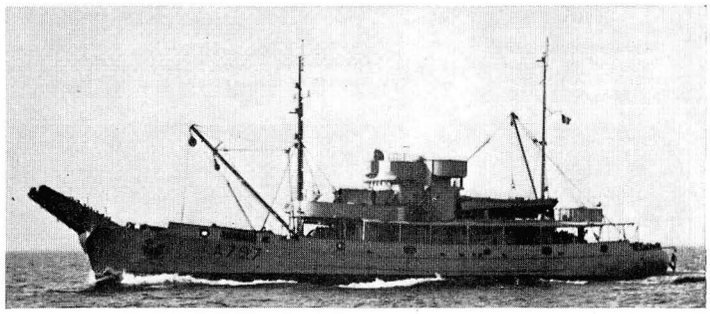
5 "Off-shore" U.S. AN Type (Rated as *Gabarres*) *Mouilleur de Filets*

CIGALE (ex-*AN* 98) **FOURMI** (ex-*AN* 97) **SCARABÉE** (ex-*AN* 94)
CRIQUET (ex-*AN* 96) **GRILLON** (ex-*AN* 95)

Displacement:	560 tons *standard* (770 tons *full load*)
Dimensions:	149⅓ × 33½ × 10½ feet
Guns:	1—40 mm. Bofors, 4—20 mm. AA.
Machinery:	2, 4-stroke diesels, electric drive. B.H.P.: 1,600 = 12 kts.

Notes

U.S. AN type "Off-shore" orders. Only the five above were finally allocated to the French Navy. *G* 6 was allocated to Spain. *Criquet* was launched on 3 June 1954, *Cigale* on 23 Sep. 1954, *Fourmi* on 6 July 1954, *Grillon* on 18 Feb. 1954, and *Scarabée* on 21 Nov. 1953.



ARAIGNEE 1960, *Giorgio Arra*

3 Ex-U.S. AN Type Netlayers

ARAIGNÉE (ex-*Hackberry*, ex-*Maple*) **TARENTULE** (ex-*Pepperwood*, ex-*Walnut*)
SCORPION (ex-*Yew*)

Displacement:	560 tons *standard* (850 tons *full load*)
Dimensions:	146 (*w.l.*), 163 (*o.a.*) × 30½ × 11⅝ feet
Guns:	1—3 inch AA., some M.G.
Machinery:	Diesel-electric. H.P.: 800 = 12 kts.
Complement:	39

Notes

Launched on 6 Mar. 1941, 25 Sep. 1941, and 25 Aug. 1941, respectively. Former American netlayers.

1 Former Aircraft Tender Type

MARCEL LE BIHAN (ex-German *Greif*)

Displacement:	800 tons *standard* (1,000 tons *full load*)
Dimensions:	236¼ × 34¾ × 9 (light)
Guns:	1—4·1 inch, 2—40 mm. AA., 4—20 mm. AA.
Machinery:	2 sets diesels. B.H.P.: 4,400 = 18·5 kts. (16 kts. sea speed)
Radius:	2,000 miles at 13 kts.
Complement:	63

Notes

Former German aircraft tender. Built by Lubecker Fleudewerke. Launched in 1936. Completed in 1937. Transferred by the United States in Feb. 1948. Re-rated as Escorteur de Deuxième Classe early in 1953, as Aviso Escorteur 11 Aug. 1953, and Aviso in 1955. Resembles *Paul Goffeny* in general design. Reclassified as a boom defence vessel on 1 Nov. 1959. Pennant No. A 759.

3 Small Type

PATIENTE **PERSISTANTE** **VICTORIEUSE**

Notes

All 350 tons, except *Patiente* 305 tons, *Giraffe* and *Persévérante* were scrapped in 1957. *Fidéle* was condemned in 1958, and *Puissante* was withdrawn from a tive service in 1960. *Agissante* was withdrawn from active service in Nov. 1961.

TRANSPORTS

FALLERON (ex-German *Welle*) **TER** (ex-German *Heinrich*)

Displacement:	150 tons (247 tons *full load*)
Machinery:	Diesels. Speed: 7 kts.

Notes

Herault was removed from the effective list in 1955. *Alphée* became a station ship in 1958.

GAPEAU (ex-German *B* 284, ex-*V* 625, ex-*Johan Schultz*)
MOLÈNE (ex-German B. 262, ex-*V* 620, ex-*Köln*)

Displacement:	300 tons
Machinery:	Deutz diesels. B.H.P.: 500 = 9 kts.

Notes

Photograph of *Gapeau* in 1957-58 and earlier editions. *Cap Ferrat* was officially deleted from the list in 1960.

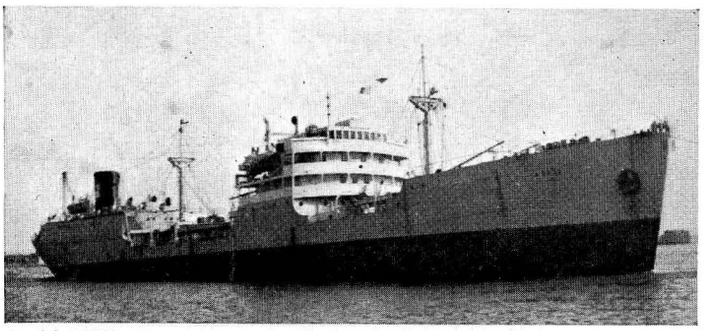
TRÉBÉRON (ex-*B* 254)

Displacement:	120 tons
Dimensions:	82 × 20 × 9 feet
Machinery:	Diesel. B.H.P.: 120 = 8·5 kts.

Notes

Former German danlayer used as small personnel transport for local service. Rated as Patrol Craft. Sister ship *Rachgoun* was scrapped in 1957.

OILERS (*Transports Petroliers*)



LA BAÏSE

LA BAÏSE

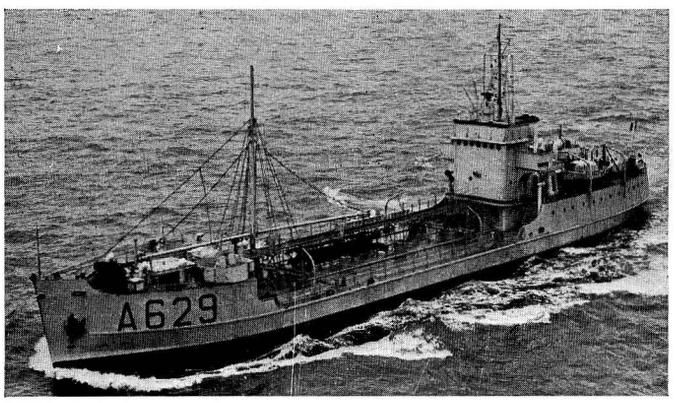
Displacement:	4,220 tons *light* (12,100 tons *full load*)
Dimensions:	433 × 52½ × 20⅔ feet
Guns:	1—3·9 inch, 14—20 mm. AA.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 5,200=15 kts.
Boilers:	2 Penhoët
Oil fuel:	1,100 tons
Radius:	10,000 miles at 13 kts.

Notes
Built by Ch. Worms, Le Trait, under the 1938 Programme. Rated as *Ravitailleur d'Escadre*. *La Baise* was launched in 1945. Pennant number A 625. Of two sister ships *La Charente* was scrapped in 1960 and *La Mayenne* is also being scrapped.

BERRY (ex- *Trail Blazer*)

Displacement:	21,886 tons *full load*
Measurement:	16,966 tons (*deadweight*)
Dimensions:	523½ × 68 × 32½ feet
Machinery:	Turbo-electric. S.H.P.: 6,000=14·5 kts.
Boilers:	2

Notes
Oil tanker of the United States " T 2 " type, built by Kaiser Inc., Portland, in 1944. Formerly belonged to Societe Francaise de Transports Petroliers. Taken over by the French Navy in 1961 on a long term bare boat charter and is being fitted as a Fleet Replenishment Ship. Pennant No. A 620.

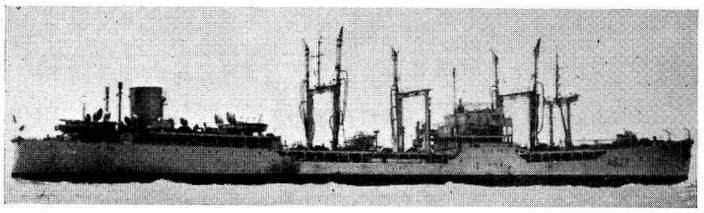


LAC CHAMBON 1956, *Skyfotos*

LAC CHAMBON (ex-*Anticline*)
LAC TCHAD (ex-*Syncline*)
LAC TONLÉ-SAP (ex-*Pumper*)

Displacement:	800 tons *light* (2,670 tons *full load*)
Dimensions:	235 × 37 × 15¾ feet
Guns:	3—20 mm. AA.
Machinery:	2 Fairbanks-Morse diesels. B.H.P.: 1,150=11 kts.
Radius:	6,300 miles at 11 kts.
Complement:	37

Notes
Ex-American fuel oil barges. Acquired in Dec. 1944 and Mar. 1945. *Lac Noir* was scrapped in 1951. *Lac Pavin* was scrapped in 1953.



LA SEINE (after modernisation) 1962, *French Navy, Official*

LA SAÔNE **LA SEINE**

Displacement:	7,350 tons *light* (23,800 tons *full load*) officially revised figures
Measurement:	16,870 tons *deadweight*
Dimensions:	525 × 72½ × 33 feet
Machinery:	2 Parsons geared turbines. 2 shafts. S.H.P.: 15,800=17 kts.
Boilers:	3 Penoët
Complement:	200

Notes
Ordered as fleet tankers. After the war completed as merchant tankers. Returned to French Navy from charter company Sep. 1953. *La Seine* was fitted as a fleet replishment ship in 1961. *La Saône* will be refitted in 1962. She is now rated as *Ravitailleur d'Escadre* Pennant numbers A 628 and A 627, respectively. They carry 11,500 tons of fuel, 300 tons of food, and have 75,000 l. tanks of wine. Photograph of *La Saône* in 1959-60 to 1961-62 editions.

1 New Construction

ABER-WRAC'H (ex-*CA* 1)

Displacement:	1,380 tons *standard* (3,400 tons *full load*)
Dimensions:	262½ (*pp.*), 284 (*o.a.*) × 40 × 15¾ feet
Guns:	1—40 m.m. AA.
Machinery:	1 diesel. 1 shaft. B.H.P.: 2,000=12 kts.
Radius:	5,000 miles at 12 kts.
Complement:	51 (2 officers and 49 men)

Notes
Authorised under the 1956 programme. It is officially stated that *Aber-wrac'h* was ordered in 1959. Laid down at Cherbourg in 1961. Pennant No. A 619.

WATER CARRIERS

GIBOULÉE **HANAP** (ex-*Stjordels Fjord*) **LIAMONE** (ex-*Arrosoir*)

Displacement:	450 tons *light* (1,369 tons *full load*)
Dimensions:	184 × 28⅞ × 13⅜ feet
Machinery:	Sulzer diesels. B.H.P.: 1,000=11·5 kts.
Complement:	27

Notes
Rated as regional supply ships. *Arrosoir* was renamed *Liamone* in Mar. 1954. Photograph of *Liamone* in 1957-58 and earlier editions.

RUMMEL **SAHEL**

Displacement:	630 tons *light* (1,450 tons *full load*)
Measurement:	650 tons *deadweight*
Dimensions:	176½ × 29½ × 14½ feet
Guns:	2—20 mm. AA.
Machinery:	2 diesels. B.H.P.: 700=12 kts.

Notes
Sahel was completed in Aug. 1951, *Rummel* in 1952 by Chantiers Naval de Caen. Photograph of *Sahel* in 1957-58 and earlier editions.

OASIS **TORRENT**

Displacement:	335 tons *standard* (683 tons *full load*)
Dimensions:	164¾ × 27 × 9 feet
Guns:	2—20 mm. AA.
Machinery:	Triple expansion. 1 shaft I.H.P.: 800=10 kts.

Notes
Built by A. C. Bretagne. Pennant numbers A 751 and A 756, respectively.

AIGUADE	**BRUINE**	**DELUGE**	**MIRAGE**
AVERSE	**CASAMANCE**	**FONTAINE**	**ONDEE**
BENZENE	**CATARACTE**	**FORMENE**	**ZAGHOUAN**

Notes
Small water carriers of various displacements (*Cataracte* displaces 330 tons). *Cascade* *Durance* and *Fraiche* were scrapped in 1957. *Aube* was scrapped in 1958. *Ardèche* was scrapped in 1960.

FLEET TUGS

COURAGEUX **HERCULE** **ROBUSTE** **VALEUREUX**

Displacement:	230 tons
Machinery:	1 MGO diesel. B.H.P.: 1,000=11 kts.
Radius:	2,400 nautical miles
Complement:	15

BÉLIER **PACHYDERME**

Displacement:	900 tons *standard* (1,185 and 1,115 tons *full load*, respectively)
Machinery:	I.H.P.: 2,000=12 kts.
Oil fuel:	180 tons
Radius:	3,000 miles

Notes
Photograph of *Pachyderme* in the 1957-58 edition.

BUFFLE

Displacement:	900 tons *standard* (1,180 tons *full load*)
Dimensions:	167½ × 33 × 10 feet
Machinery:	2 sets triple expansion. I.H.P.: 2,000=12 kts.
Complement:	32

Notes
Launched on 4 May 1939.

ACHARNÉ **ENTÉTÉ** **OBSTINÉ** **TÉTU** **UTILE**

Displacement:	500 to 682 tons *full load*
Dimensions:	114¾ × 27⅔ × 10 feet
Machinery:	Triple expansion. I.H.P.: 1,000=10 to 11 kts.

Notes
All laid down 1937-38. *Acharné* by Brest, others by F. & C. de la Gironde, Bordeaux *Actif*, *Applique* and *Cépét* were scrapped in 1957-58, *Contentin* was withdrawn from active service in 1960, and *Champion* was condemned in 1961.

INFATIGABLE (ex-*Polangen*)

Displacement:	540 tons
Machinery:	I.H.P.: 1,200=11 kts.

IMPLACABLE (ex-*Fohn II*)

Displacement:	620 tons
Machinery:	I.H.P.: 1,600—11 kts.

IMBATTABLE (ex-*Nesserland*)

Displacement:	690 tons
Machinery:	I.H.P.: 1,000=10 kts.

Notes
The tug *Intraitable* (ex-*Nordergrunde*) was condemned in Mar. 1961, it is officially stated.

MAMMOUTH (1918)

Displacement:	620 tons *standard* (740 tons *full load*)
Machinery:	I.H.P.: 1,800=10 kts.

ÉLÉPHANT (ex-*Bar*)

Displacement:	850 tons (1,180 tons *full load*)
Machinery:	I.H.P.: 1,800=12 kts.

Notes
The tug *Samson* (ex-German *Suder Hever*) was officially condemned Mar. 1961.

EFFICACE

Displacement:	500 tons
Machinery:	I.H.P.: 1,000=9 kts.

RHINOCÉROS

Displacement:	700 tons
Machinery:	Diesels. B.H.P.: 1,850=12 kts.

Notes
Photograph of *Rhinocéros* in the 1953-54 to 1957-58 editions.

COOLIE (ex-*YTB* 459, ex-*Edenshaw*, 1943) **MALABAR** (ex-*YTB* 458, ex-*Evea*)

Displacement:	300 tons
Machinery:	Diesel. B.H.P.: 1,020=14 kts.

Notes
Transferred from the United States Navy in 1944.

TENACE (ex-*ATA* 226)

Displacement:	400 tons
Machinery:	Diesels. B.H.P.: 1,200=10 kts.

LOCMINÉ

Displacement:	620 tons
Machinery:	Reciprocating I.H.P.: 1,000=10 kts.

GABOON

BOUET-WILLAUMEZ (ex-*VP* 775, ex-*VP* 25, ex-*HDML* 1021)

Displacement:	40 tons *standard* (52 ton *full load*)
Dimensions:	72 (*o.a.*) × 15¼ × 6 feet
Guns:	2—20 mm. AA., 2 M.G.
Machinery:	2 diesels. 2 shafts. B.H.P.: 300=12 kts.

Notes
Former French *vedette de port*, ex-British harbour defence motor launch, transferred from the French Navy to Gaboon in 1961. Bears the name of the admiral who signed the first Franco-Gabonese Treaty.

PENNANT NUMBERS

D = Destroyers (*Escorteurs d'Escadre* and *Escorteurs Rapides*)
F = Frigates (*Escorteurs* and *Avisos*)
S = Submarines (*Sous-marins*)
P = Patrol Vessels (*Patrouilleurs*)
M = Minesweepers (*Dragueurs*)
L = Landing Ships
A = Auxiliaries

D Flag Superior:

621 Surcouf
622 Kersaint
623 Cassard
624 Bouvet
625 Dupetit Thouars
626 Chevalier Paul
627 Maillé Brézé
628 Vauquelin
629 D'Estrées
630 Du Chayla
631 Casabianca
632 Guépratte
633 Duperré
634 La Bourdonnais
635 Forbin
636 Tartu
637 Jauréguiberry
638 La Galissoniere

F Flag Superior:

701 Algérien
702 Sénégalais
708 La Surprise
718 Kabyle
719 Bambara
721 Touareg
722 Soudanais
724 Malgache
725 Victor Schoelcher
726 Commandant Bory
727 Amiral Charner
728 Doudart de Lagrée
729 Balny
730 Francis Garnier
733 Commandant Rivière
737 Bisson
738 Commandant Amyot d'Inville
739 Commandant de Pimodan
740 Commandant Bourdais
745 La Capricieuse
747 La Moqueuse
748 Protet
749 Enseigne de Vaisseau Henry
750 La Pérouse
751 Beautemps Beaupré
752 Amiral Mouchez
754 O.E. Paul Goffeny
755 Commandant Robert Giraud
761 Le Corse
762 Le Brestois
763 Le Boulonnais
764 Le Bordelais
765 Le Normand
766 Le Picard

F Flag Superior—*continued*

767 Le Gascon
768 Le Lorrain
769 Le Bourguignon
770 Le Champenois
771 Le Savoyard
772 Le Breton
773 Le Easque
774 L'Agenais
775 Le Béarnais
776 L'Alsacien
777 Le Provencal
778 Le Vendéen

S Flag Superior

601 L'Andromède
603 L'Artémis
606 La Créole
608 L'Astrée
609 Millé
613 Roland Morillot
631 Narval
632 Marsouin
633 Dauphin
634 Requin
635 Aréthuse
636 Argonaute
637 Espadon
638 Morse
639 Amazone
640 Ariane
641 Daphné
642 Diane
643 Doris
645 Eurydice
646 Flore
647 Galatée
648 Minerve

P Flag Superior:

630 L'Intrépide
635 L'Ardent
637 L'Etourdi
638 L'Effronté
639 Le Frondeur
640 Le Fringant
641 Le Fougueux
642 L'Opiniâtre
643 L'Agile

P Flag Superior—*continued*

644 L'Adroit
645 L'Alerte
646 L'Attentif
647 L'Enjoué
648 Le Hardi
660 La Recherche

M Flag Superior

609 Narvik
610 Ouistreham
612 Alençon
613 Berneval
614 Bir Hacheim
615 Cantho
616 Dompaire
617 Garigliano
618 Mytho
619 Vinh-long
620 Berlaimont
621 Origny
622 Autun
623 Baccarat
624 Colmar
631 Pivot
632 Pervenche
633 Pivoine
634 Renoncule
635 Réséda
638 Acacia
639 Acanthe
640 Aconit
667 Ajonc
668 Azalée
669 Bégonia
670 Bleuet
671 Camélia
672 Chrysanthème
673 Coquelicot
674 Cyclamen
675 Eglantine
676 Gardénia
677 Giroflée
678 Glaïeul
679 Glycine
680 Jacinthe
681 Laurier
682 Lilas
683 Liseron
684 Lobelia
685 Magnolia
686 Margeurite
687 Mimosa
688 Muguet

M Flag Superior—*continued*

701 Sirius
702 Rigel
703 Antares
704 Algol
705 Aldebaran
706 Régulus
707 Véga
708 Castor
709 Pollux
710 Pégase
726 La Dunkerquoise
727 La Malouine
728 La Bayonnaise
729 La Paimpolaise
730 La Dieppoise
731 La Lorientaise
734 Croix du Sud
735 Etoile Polaire
736 Altaïr
737 Capricorne
740 Cassiopée
741 Eridan
742 Orion
743 Sagittaire
744 Achernar
745 Procyon
746 Arcturus
747 Bételgeuse
748 Persée
749 Phénix
750 Bellatrix
751 Dénébola
752 Centaure
753 Fomalhaut
754 Canopus
755 Capella
756 Céphée
757 Verseau
758 Aries
759 Lyre
765 Mercure

L Flag Superior:

9003 Argens
9004 Bidassoa
9006 Chéliff
9007 Trieux
9008 Dives
9009 Blavet
9020 Foudre

FRENCH CARRIER-BORNE AIRCRAFT

Name	*Maker*	*Type*	*Dimensions*	*Power Plant*	*Armament*	*Performance*
ETENDARD IV-M	Dassault	Single-Seat Interceptor and Fighter-Bomber	Wing Span 31 ft. 6 in. Length 47 ft. 3 in.	One SNECMA Atar 8 turbojet	Two 30 mm. cannon. 3,000 lb. of bombs or missiles	Max. speed 700 m.p.h. at 36,000 ft. Range 370-800 miles
ETENDARD IV-P	Dassault	Single-Seat Reconnaissance/ Flight Refuelling Tanker Aircraft	Wing Span 31 ft. 6 in.	One SNECMA Atar 8 turbojet	Cameras in nose and underfuselage pack	Max. speed 700 m.p.h. at 36,000 ft. Range 370-800 miles
AQUILON (SEA VENOM)	Sud-Aviation	Single or Two-Seat All-Weather Fighter	Wing Span 42 ft. 10½ in. Folded 23 ft. Length 36 ft. 6 in.	One D.H. Ghost Mk. 48 turbojet	Four 20 mm. cannon. Eight Rockets	Max. speed 600 m.p.h.
F4U-7 CORSAIR	Chance Vought	Single-Seat Fighter-Bomber	Wing Span 40 ft. 11¾ in. Folded 17 ft. Length 34 ft. 6½ in.	One Pratt and Whitney R-2800-18W Engine	Four 20 mm. cannon. Ten 5 in. rockets and two 1,000 — 1,600 lb. bombs	Max. speed over 450 m.p.h.
Br 1050 ALIZÉ	Breguet	Three-Seat Anti-Submarine Aircraft	Wing Span 51 ft. 2 in. Folded 22 ft. 11 in. Length 45 ft. 6 in.	One Rolls-Royce Dart R. Da. 7 turboprop	One ASM torpedo. Up to five depth charges. Six rockets or two missiles	Max. speed 285 m.p.h. Normal endurance 5 hr. 10 min.

FRENCH NAVAL GUIDED MISSILES

Type	*Name*	*Maker*	*Length ft.*	*Propulsion*	*Speed Mach.*	*Range miles*	*Guidance System*	*Notes*
SURFACE-TO-SURFACE	Malafon	Latécoère	19·66	Two solid boosters only. Unpowered in cruise	0·8	11	Command	Aeroplane configuration. Built around 21 in. acoustic homing torpedo. In production
SURFACE-TO-AIR	Masurca	Ruelle Arsenal	29·5	Two-stage solid propellant	2·2	18·6	Radio command	To be standard naval anti-aircraft armament

GERMANY

Bundesmarine Administration

Chief of Naval Staff, Federal German Navy:
Vice-Admiral Karl Adolf Zenker

Naval Attaché in London:
Captain R. Rüggeberg

Personnel

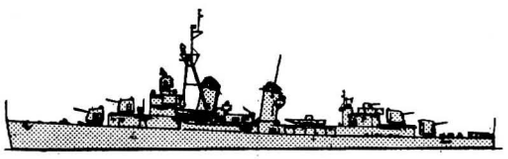
2,900 (2,636 officers and 26,364 men)

Mercantile Marine

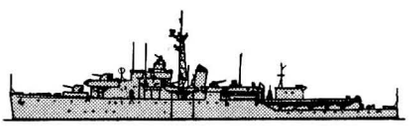
Lloyd's Register of Shipping:
2,454 vessels of 4,771,080 tons *gross*

Silhouettes

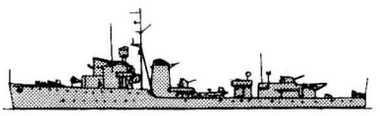
Scale: 150 feet = 1 inch



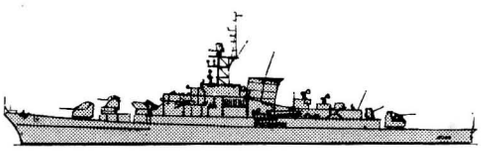
FLETCHER *Class*



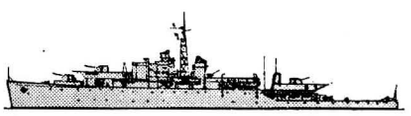
HIPPER



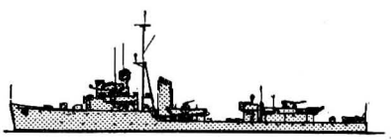
BROMMY



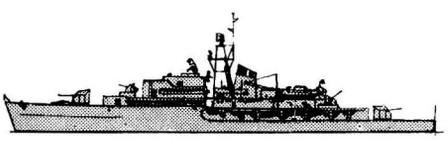
KÖLN *Class*



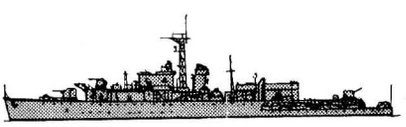
SCHARNHORST



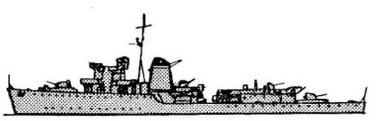
RAULE



RHEIN *Class*



GRAF SPEE



GNEISENAU

DESTROYERS

8 Projected

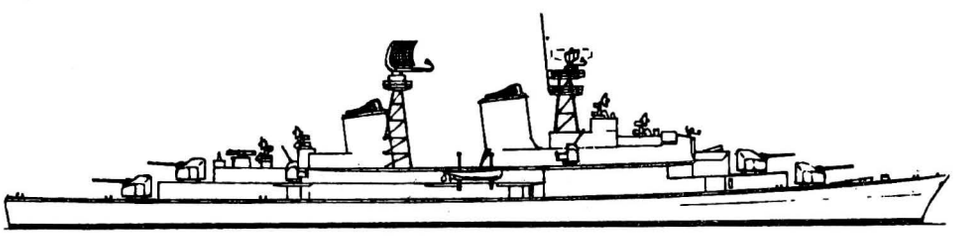
Guided Missile Armed Type

Displacement:	4,500 tons *standard* (6,000 tons *full load*)
Dimensions:	541½ × 54½ × 19¼ feet (estimated)
Guided Missiles:	"Tartar," (may have "Seaslug")
Guns:	100 mm. and 40 mm. AA.
A/S weapons:	Homing torpedoes; Mortars
Aircraft:	Provision for helicopter
Machinery:	Speed=36 kts. (see *Notes*)

Notes
Reported in 1962 that no firm decision had been made about type, builders and date of order. May be powered with Bristol Siddeley Olympus gas turbines with standby diesels.

4 New Construction

	HAMBURG	SCHLESWIG-HOLSTEIN
Displacement:	2,850 tons *standard* (3,800 tons *full load*)	
Dimensions:	423¾ × 42¾ × 15¾ feet	
Guns:	4—3·9 inch, 54 cal., dual purpose (100 mm.); 8—40 mm. AA. in twin mounts	
Tubes:	5—21 inch (quintuple nest), and 2 for ASW torpedoes	
A/S weapons:	2 Bofors four-barrelled depth charge mortars (rocket launchers)	
Machinery:	MAN geared turbines. 2 shafts. S.H.P.: 70,000=36 kts.	
Complement:	350	



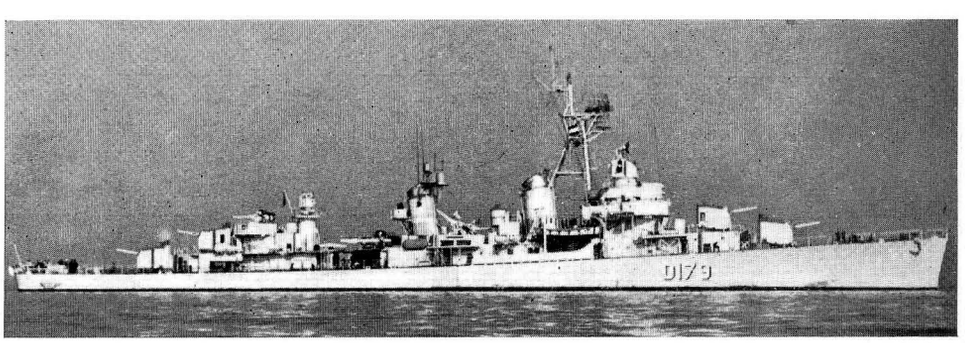
Notes
Built by H. C. Stulcken Sohn, Hamburg. First two to be completed in 1962-63, other two in 1963-64. Named after countries of the German Federal Republic. *Hamburg* was launched on 26 Mar. 1960, *Schleswig-Holstein* on 20 Aug. 1960.

6 Ex-U.S. "Fletcher" Class

	Commissioned
Z 1 (ex-U.S.S. *Anthony*, *DD* 515)	17 Jan. 1958
Z 2 (ex-U.S.S. *Ringgold*, *DD* 500)	14 July 1959
Z 3 (ex-U.S.S. *Wadsworth*, *DD* 516)	6 Oct. 1959
Z 4 (ex-U.S.S. *Claxton*, *DD* 571)	15 Dec. 1959
Z 5 (ex-U.S.S. *Dyson*, *DD* 572)	23 Feb. 1960
Z 6 (ex-U.S.S. *Charles Ausburn*, *DD* 570)	12 Apr. 1960

Displacement:	2,100 tons *standard* (2,750 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39½ × 12¼ (*mean*), 18 (*max.*) feet
Guns:	4—5 inch, 38 cal. d.p.; 6—3 inch, 50 cal. AA. (3 twin mountings)
Tubes:	5—21 inch (quintuple bank). **Z 1** is fitted with racks for homing torpedoes
A/S weapons:	1 depth charge rack
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000=35 kts. Sea speed: 30 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	350

General Notes
Former American "Fletcher" class destroyers. On loan from the United States for five years. *Anthony*, now Z 1 (NATO *Pennant No.* D 170) arrived at Bremerhaven on 14 Apr. 1958. *Ringgold* was transferred by the U.S.A. at Charleston, S.C., on 14 July 1959.



Z 5 (Radar fitted on after funnel) 1962, *Rolf Meinecke*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 170	Z 1 *Anthony*	Bath Iron Works Corporation, Maine	17 Aug. 1942	20 Dec. 1942	26 Feb. 1943
D 171	Z 2 *Ringgold*	Federal S.B. & D.D. Co., Port Newark	25 June 1942	11 Nov. 1942	24 Dec. 1942
D 172	Z 3 *Wadsworth*	Bath Iron Works Corporation, Maine	18 Aug. 1942	10 Jan. 1943	16 Mar. 1943
D 178	Z 4 *Claxton*	Consolidated Steel Corporation, Orange	25 June 1941	1 Apr. 1942	8 Dec. 1942
D 179	Z 5 *Dyson*	Consolidated Steel Corporation, Orange	25 June 1941	15 Apr. 1942	30 Dec. 1942
D 180	Z 6 *Charles Ausburn*	Consolidated Steel Corporation, Orange	14 May 1941	16 Mar. 1942	24 Nov. 1942

FAST FRIGATES

6 " Köln " Class

AUGSBURG (15 Aug. 1959) **KARLSRUHE** (24Oct.1959)
BRAUNSCHWEIG (3 Feb. 1962) **KÖLN** (6 Dec. 1958)
LÜBECK (23 July 1960)
EMDEN (21 Mar. 1959)

Displacement:	2,100 tons *standard* (2,800 tons *full load*)
Dimensions:	344½ (*pp.*), 357¾ (*o.a.*) × 34⅛ × 12 feet
Guns:	2—3·9 inch (100 mm.), 6—40 mm. AA. (two twin, two single)
Tubes:	2 for ASW torpedoes
A/S weapons:	2 Bofors four-barrelled depth charge mortars (rocket launchers)
Machinery:	Combined diesel and gas turbine plant. 4—16 cyl. MAN diesels. B.H.P.: 12,000, coupled to 2 Brown Boveri gas turbines, B.H.P: 26,000. 2 shafts. Total S.H.P.: 38,000=32 kts.
Complement:	210

General Notes

A new type of fast anti-submarine frigates or escort destroyers. Built by H. C. Stülcken Sohn, Hamburg. Ordered in Mar. 1957 First ship completed in 1960. Remainder delivered by 1961-63. All ships of this class are named after towns of West Germany. Classed as *Geleitboote*. Launch dates above. Pennant Nos.: F 220 (*Köln*), F 221 (*Emden*), F222 (*Augsburg*), F 223 (*Karlsruhe*), F 224 (*Lübeck*), F 225 (*Braunschweig*).



KÖLN

1962, *Bundesmarine, Official*

Engineering Notes

Each of the two shafts is driven by two diesels coupled and geared to one BBC gas turbine. Variable pitch propellers.

FRIGATES (ex-Sloops)

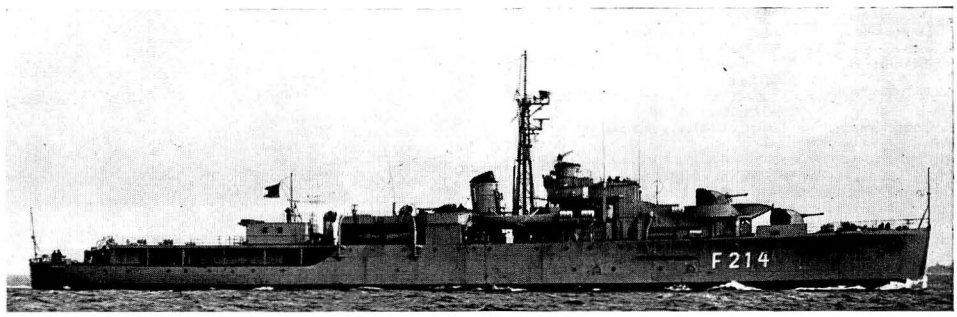
3 Ex-British Later " Black Swan " Class

HIPPER (ex-H.M.S. *Actaeon*)
SCHARNHORST (ex-H.M.S. *Mermaid*)
SCHEER (ex-H.M.S. *Hart*)

Displacement:	1,490 tons *standard* (1,975 tons *full load*)
Dimensions:	300 × 38½ × 11 (*max.*) feet
Guns:	*Hipper*: 6—40 mm., AA. *Scharnhorst*: 6—4 inch AA., 2—40 mm , AA. (being re-armed). *Scheer*: None
A/S weapons:	1 D.C.T.; 1 D.C. rack; 40 D.C.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 4,300=19·75 kts. (designed) Sea speed 18 kts.
Boilers:	2 Admiralty three-drum type
Oil fuel:	370 tons
Radius:	4,500 miles at 12 kts.
Complement:	76 (7 officers, 69 ratings) 190 *max.*

Name	*Laid down*	*Launched*	*Completed*
Hipper	15 May 1944	25 July 1945	24 July 1946
Scharnhorst	8 Sep. 1942	11 Nov. 1943	12 May 1944
Scheer	27 Mar. 1942	7 July 1943	12 Dec. 1943

Name	*Builders*
Hipper	John I. Thorneycroft & Co. Ltd., Southampton
Scharnhorst	Wm. Denny & Bros. Ltd., Dumbarton
Scheer	Alex. Stephen & Sons Ltd., Govan, Glasgow



HIPPER (*ex*-H.M.S. *Actaeon*)

1959, *Bundesmarine, Official*

Notes

Former British frigates (ex-sloops) of the Modified " Black Swan " class. *Hipper* was transferred from Great Britain to the Bundesmarine at Vickers-Armstrongs Ltd., Newcastle-on-Tyne, on 9 Dec. 1958, and commissioned on 10 Jan. 1959 for duty as cadet training ship at Kiel. *Scheer* was handed over at Palmers, Jarrow, on 27 Aprl 1959, and *Sharnhorst* was handed over at Vickers-Armstrongs, Tyne, on 5 May 1959, *Scharnhorst* is employed for gunnery training and *Scheer* for asdic training. Pennant Nos. F 214, F 213 and F 216, respectively.

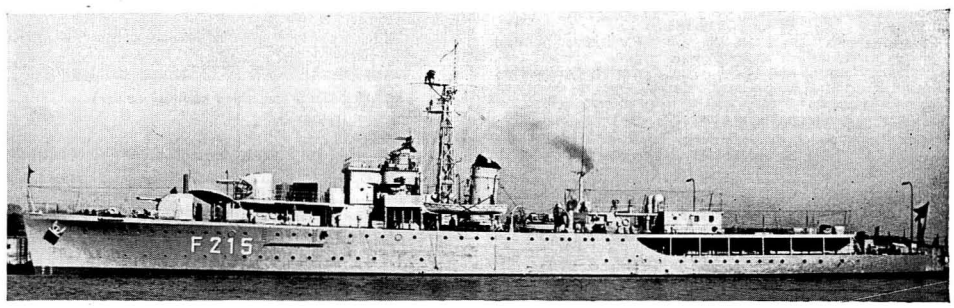
1 Ex-British " Black Swan " Class

GRAF SPEE (ex-H.M.S. *Flamingo*)

Pennant No.	F 215
Builders:	Yarrow & Co. Ltd., Scotstoun, Glasgow
Laid down:	26 May 1938
Launched:	18 April 1939
Completed:	3 Nov. 1939
Displacement:	1,430 tons *standard* (2,015 tons *full load*)
Dimensions:	299½ × 37½ × 11 (*max.*) feet
Guns:	2—4 inch; 3—40 mm. AA.
A/S weapons:	2 Hedgehogs
Machinery:	Geared turbines. 2 shafts. S.H.P.: 4,300=19·25 kts. (designed) Sea speed 18 kts.
Boilers:	2 of three-drum type
Oil fuel:	370 tons
Radius:	4,500 miles at 12 kts.
Complement:	76 (180 *max.*)

Notes

Former British frigate (ex-sloop) of the original " Black Swan" class Transferred from Great Britain to the Bundesmarine on 21 Jan. 1959 at the Palmers Hebburn Works of Vickers-Armstrongs (Shipbuilders) Ltd., at Hebburn-on-Tyne, where she was refitted. Renamed and commissioned on 21 Feb. 1959 as a cadet training ship based on Kiel.



GRAF SPEE (*ex*-H.M.S. *Flamingo*)

1959, *Bundesmarine, Official*

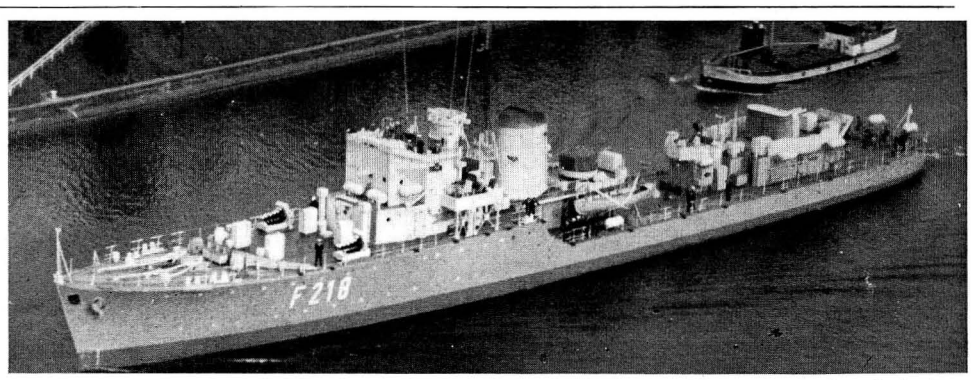
FRIGATES (ex-Escort Destroyers)

2 British " Hunt " Class, Type III

BROMMY (ex-H.M.S. *Eggesford*)
RAULE (ex-H.M.S. *Albrighton*)

Displacement:	1,087 tons *standard* (1,620 tons *full load*)
Dimensions:	264¼ (*pp.*), 280 (*o.a.*) × 31½ × 14 (*max.*) feet
Guns:	2—4 inch AA.; 1—40 mm. AA.
A/S weapons:	2 Hedgehogs, 4 D.C.T., 2 D.C. racks
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=29 kts. (designed) Sea speed 25·5 kts.
Boilers:	2 Admiralty three-drum type
Oil fuel:	345 tons
Radius:	3,700 miles at 14 kts.
Complement:	70 (170 *max.*)

Name:	*Brommy*	*Raule*
Builders:	J. Samuel White & Co. Ltd., Cowes	John Brown & Co. Ltd., Clydebank
Laid down:	23 June 1941	30 Dec. 1940
Launched:	12 Sep. 1942	11 Oct. 1941
Completed:	21 Jan. 1943	22 Feb. 1942



BROMMY (ex-H.M.S. *Eggesford*)

1962, *courtesy Herr Alexander Bredt*

Notes

Former British frigates (ex-escort destroyers) of the " Albrighton " class (" Hunt " class, Type III). Reconstructed in 1958-59. Both ships were transferred from Great Britain to the Bundesmarine in 1959. Commissioned on 14 May 1959. Rated as training ships for the submarine weapons school. Both modified in 1961. *Brommy* was refitted by Palmers Hebburn works of Vickers-Armstrongs in 1962. Pennant Nos. F 218 and F 217, respectively.

Frigates (ex-Escort Destroyers)—*continued*

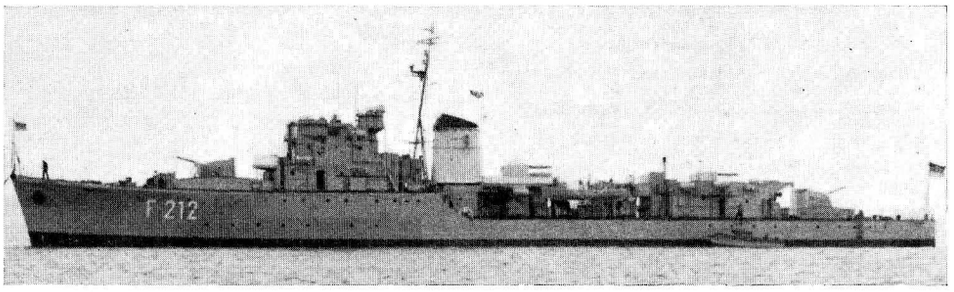
1 British " Hunt " Class, Type II

GNEISENAU (ex-H.M.S. *Oakley*, ex-*Tickham*)

Builders:	Yarrow & Co. Ltd., Scotstoun, Glasgow
Laid down:	19 Aug. 1940
Launched:	15 Jan. 1942
Completed:	7 May 1942
Displacement:	1,050 tons *standard* (1,610 tons *full load*)
Dimensions:	264¼ (*pp.*), 280 (*o.a.*) × 31½ × 14 (*max.*) feet
Guns:	4—4 inch AA.; 2—40 mm. AA.;
A/S weapons:	Removed
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=29 kts. (designed). Sea speed 25 kts.
Boilers:	2 Admiralty three-drum type
Oil fuel:	345 tons
Radius:	3,600 miles at 14 kts.
Complement:	82 (7 officers, 75 ratings) 117 *max.*

Notes

Former British frigate (ex-escort destroyer) of the " Blankney " class (" Hunt " class ,Type II). Purchased from the Royal Navy in Nov. 1957. Officially taken over by the German Federal Navy, after refit in Great Britain, at Langton Branch Dock, Harland & Wolff Ltd., Liverpool, on 2 Oct. 1958. Commissioned and re-named at Bremerhaven on 18 Oct. 1958. Now fitted with stablisers, radar, and cowl funnel. Employed as a training ship by the German Naval Gunnery School. Modified in 1961. Pennant No. F 212.



GNEISENAU (ex-H.M.S. *Oakley*) 1962, *Erich Groner*

SUBMARINES

12 New Construction

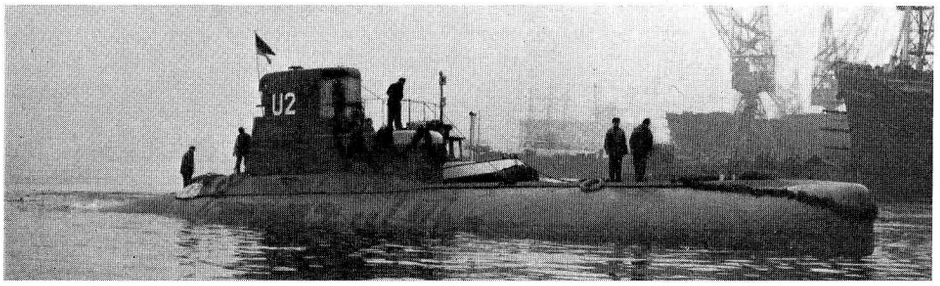
U 1 (21 Oct. 1961)	**U 5**	**U 9**
U 2 (25 Jan. 1962)	**U 6**	**U 10**
U 3	**U 7**	**U 11**
U 4	**U 8**	**U 12**

Displacement:	350 tons *surface*
Dimensions:	144⅓ (*o.a.*) × 15⅛ feet
Tubes:	8 (bow)
Machinery:	2 diesels. B.H.P.: 1,200=11 kts. *surface* 2 electric motors. H.P.: 1,700=over 20 kts. *submerged*
Complement:	20 or 21 officers and ratings

Notes

All constructed by Keiler Howaldtswerke, Kiel in floating docks. Launching dates above. Eight torpedoes carried. First boats reported to have made a speed of 25 kts. " Tear-drop " hull. Fitted with schnorkel installation.

First submarines designed by German naval architects and built by Germany since the end of the Second World War.



U 2 1962, *Bundesmarine, Official*

3 Midget Type

Displacement:	100 tons *standard*
Dimensions:	Length 72½ feet
Tubes:	2 special homing (bow)
Machinery:	Diesels. Electric motors
Complement:	8 officers and ratings

Notes

Under construction by Atlas-Werke, Bremen, for delivery in 1962-63. Will be employed for electrical trial purposes.

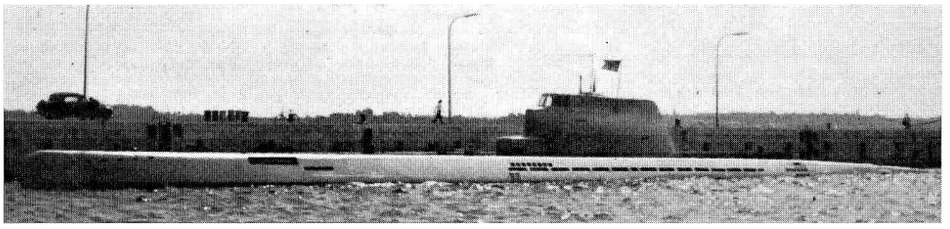
1 Converted Type XXI

WILHELM BAUER (ex-*Wal*, ex-*U* 2540) *Pennant No.* Y 880

Displacement:	1,620 tons *surface* (1,820 tons *submerged*)
Dimensions:	252⅔ × 21⅔ × 20½ feet
Tubes:	4—21 inch (bow)
Machinery:	2 diesels. B.H.P.: 1,200. Diesel electric drive. 2 electric motors. H.P.: 5,000=17·5 kts.

Notes

German Second World War Type XXI. Launched in 1944 by Blohm and Voss, Hamburg. Sunk on 3 May, 1945. Raised in 1957. Rebuilt in 1958-59 at Howaldtswerke, Kiel, for commissioning on 1 Sep. 1960. Used for experimental purposes on electronic equipment machinery and outfit in the *Erprobungsstelle für Marinewaffen* (Experimental Station for Naval Weapons).



WILHELM BAUER (modified conning tower) 1962, *Erich Groner*

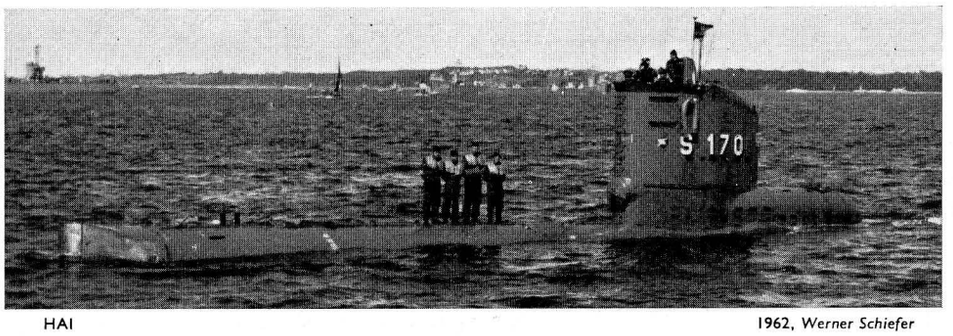
2 Type XXIII

HAI (ex-*UW* 20, ex-*U* 2365) NATO *Pennant No.*: S 170
HECHT (ex-*UW* 21, ex-*U* 2367) NATO *Pennant No.*: S 171

Displacement:	180 tons *standard*, 232 tons *surface* (256 tons *submerged*)
Dimensions:	112 × 10 × 12 feet
Tubes:	2—21 inch (bow)
Machinery:	1 MWM diesel. 1 shaft. B.H.P.: 580=9·7 kts. *surface* 1 Electric motor. H.P.: 600=12·5 kts. *submerged* 1 Electric motor. H.P.: 35=2 kts. *submerged*
Oil fuel:	18 tons
Radius:	1,350 miles at 9 kts.
Complement:	16

Notes

German war type XXIII. Built in 1945 at Deutsche Werft, Hamburg. Raised in the Western Baltic in 1956, rebuilt at Howaldtswerke, Kiel, in 1957. Used for ASW training and submarine crew training. *Hai* (Shark) was commissioned on 15 Aug. 1957, *Hecht* (Pike) was commissioned on 1 Oct. 1957. Both in service in 1958. A photograph of *Hecht* appears in the 1958-59 to 1960-61 editions.



HAI 1962, *Werner Schiefer*

TRAINING SHIP

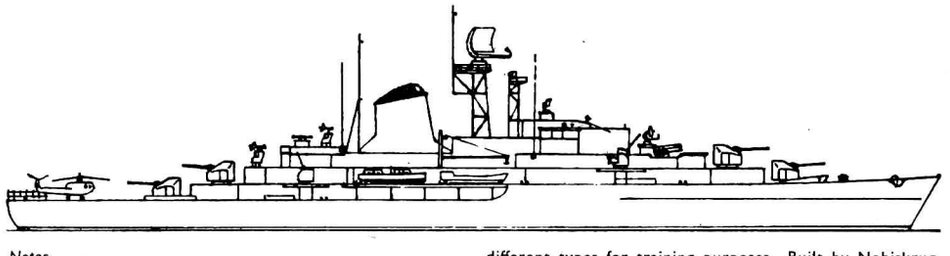
1 New Construction. Cruiser Type

DEUTSCHLAND

Displacement:	4,250 tons *standard*, 4,800 tons *normal* (5,500 tons *full load*)
Dimensions:	452¾ (*pp.*), 475¾ (*o.a.*) × 59 × 14¾ feet
Guns:	4—3·9 inch (100 mm.) (single), 6—40 mm. AA. (2 twin, 2 single)
Tubes:	4 for ASW torpedoes, 2 for anti-surface torpedoes
A/S weapons:	2 Bofors four-barrelled depth charge mortars (rocket launchers)
Aircraft:	1 helicopter
Machinery:	2 Mercedes-Benz and 2 Maybach diesel motors, B.H.P.: 6,680, and geared turbines, S.H.P.: 8,000. 3 shafts. Speed=22 kts.
Complement:	528 (278 ship's company, plus 250 cadets)

Notes

First West German naval ship to exceed the post-war limit of 3,000 tons. Large frigate type. Can also be employed as a minelayer. Designed with armament and machinery of different types for training purposes. Built by Nobiskrug, Rendsburg. Ordered in 1956. Laid down in 1959. Launched on 5 Nov. 1960. The name originally planned for this ship was *Berlin*.



CORVETTES



THETIS — 1962, *Bundesmarine, Official*

5 New Construction. " Thetis " Class

HERMES **NAJADE** **TF 5** **THETIS** **TRITON**

Displacement:	564 tons *standard* (680 tons *full load*)
Dimensions:	229⅔ × 27 × 7½ feet
Guns:	2—40 mm. AA. (twin mounting)
A/S weapons:	Bofors D.C. mortar
Machinery:	2 MAN diesels. 2 shafts. B.H.P.: 6,000=24 kts.

Notes

Built by Roland Werft, Bremen-Hemelingen. *Thetis* commissioned on 1 July 1961 and *Hermes* on 16 Dec. 1961. *Triton* was launched on 5 Aug. 1961 and *Najade* on 6 Dec. 1960. These *Torpedofangboote* of an advanced PC type, an interesting new design presenting a pleasing and rakish appearance, would be used as submarine chasers in wartime.

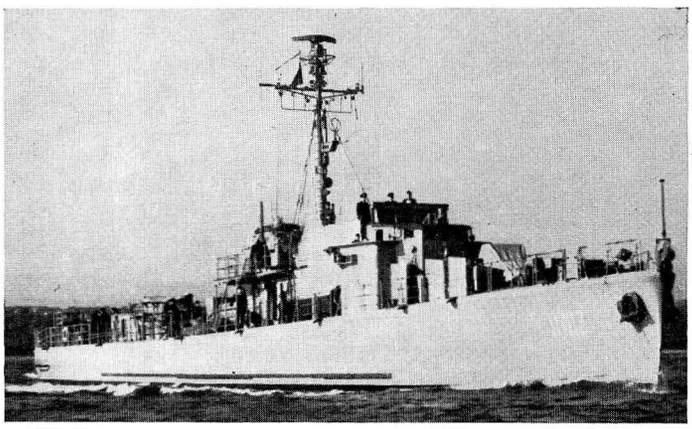
1 New Construction

HANS BÜRKNER

Displacement:	982 tons *standard*
Dimensions:	265½ (*o.a.*) × 30¾ × 10 feet
Guns:	2—40 mm. AA. (twin mounting)
Tubes:	2—18 inch anti-submarine homing
A/S weapons:	1 D.C. mortar (four-barrelled) 2 D.C. racks
Machinery:	4 MAN diesels. 2 shafts. S.H.P.: 12,000=25 kts.

Notes

Large PCE type. Rated as Type B *Torpedofangboote* (torpedo recovery boat). Built by Atlaswerke, Bremen. Launched on 16 July 1961. Named after the designer of the German pre-First World War battleships.



UW 12 — 1958, *courtesy Herr W. Schiefer*

UW 12 (ex-*PC* 1618, ex-*P* 9)

Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 (*pp.*) × 23 × 6½ feet
Guns:	1—40 mm. Bofors AA.; 2—20 mm. AA.
A/S weapons:	1 hedgehog, 4 D.C.T., 2 D.C. racks
Machinery:	4 Pielstick-SEMT light and fast diesels coupled 2 by 2. B.H.P.: 3,240=18·7 kts.
Radius:	2,500 miles at 12 kts.; 2,000 miles at 15 kts.
Complement:	62

Notes

Built in France by Dubigeon, Nantes under a U.S.A. off-shore order. Completed in 1955. Purchased by Germany in 1957. Commissioned on 17 Apr. 1957. Submarine chaser of the the U.S. PC type. Employed for trial purposes at the submarine weapons school. Pennant No.: W 51.



BIENE — 1962, *Erich Groner*

5 " Brummer " Class

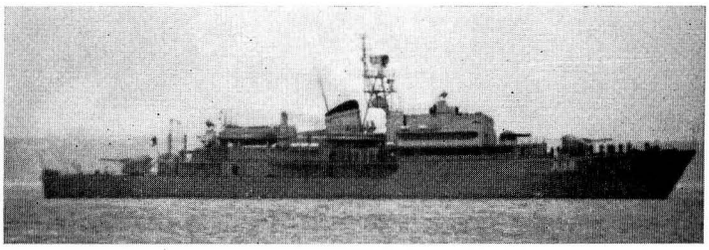
BIENE (ex-*Belfort*, ex-*M* 205) F 207
BREMSE (ex-*Vimy*), ex-*M* 253) F 208
BRUMMER (ex-*Yser*, ex-*M* 85) F 209
HUMMEL (ex-*Laffaux*, ex-*M* 81) F 210
WESPE (ex-*Ailette*, ex-*M* 24) F 211

Displacement:	717 tons *standard* (874 tons *full load*)
Dimensions:	229⅔ × 28¼ × 9 feet
Guns:	2—40 mm. AA., 2—20 mm. AA.
A/S weapons:	1 hedgehog.
Machinery:	2 Lentz double Expansion. 2 shafts. I.H.P.: 3,500=18 kts.
Boilers	2 high pressure Wagner
Oil fuel:	123 tons
Radius:	1,440 miles at 9 kts.
Complement:	100

Notes

Former German M 35 type ocean minesweepers. Completed in 1941-42. Transferred to the French Navy after the Second World War. Turned over to the Federal German Navy in Dec. 1956 (Purchase approved 10 Nov. 1956). Employed for training purposes. Refitted in 1958. Formerly classed as minesweepers, but subsequently re-rated as *geleitboote* (escort vessels) or corvettes, with frigate pennant Nos. F 207-F 211, and classed as *schulboote* (Cadet Training Ships) in 1960, for training Naval Cadets and Upper Yardmen Candidates.

SUPPORT SHIPS



RHEIN — 1962, *courtesy Herr Alexander Bredt*

14 New Construction. " Rhein " Class

DONAU **LAHN** **MOSEL** **RHEIN** **SAAR**
ELBE **MAIN** **NECKAR** **RUHR** **WESER**

Displacement:	1,800 tons *standard* (2,200 tons *full load*)
Dimensions:	324¾ × 38¾ × 9¼ feet
Guns:	2—3·9 inch A.A. (100 mm.), 4—40 mm. AA. (*Lahn* no 3·9)
Machinery:	6 Maybach diesels. 2 shafts. B.H.P.: 10,800=24 kts.
Complement:	98 (extra accommodation for 200)

Notes

Elbe, Mosel, Rhein and Ruhr ordered in Jan. 1958 from Schliekerwerft, Hamburg (formerly Ottenser Eisenwerke, Hamburg), one from Blohm & Voss, Hamburg, *Weser* from Elsflether Werft, *Neckar* from Lurssen, Bremen-Vegesack, and *Saar* from Norderwerft, Hamburg. *Donau* ordered from Schlichting, Travemünde, *Main* from Lindenau, Kiel, two from Flender, Lubeck. First ship, *Rhein*, Pennant No. A 58, launched 10 Dec. 1959, *Mosel* launched 15 Dec. 1960, *Donau* launched 26 Nov. 1960. Rated as *Begleitschiffe* (tenders) for minesweepers, submarines and motor torpedo boats, but these handsome and symmetrical ships of very interesting design, with their 3·9 inch guns and comparatively high speed could obviously be used in lieu of frigates.

COASTAL MINESWEEPERS



VEGESACK — 1960, *Bundesmarine, Official*

6 " Vegesack " Class

DETMOLD M 1252 **PASSAU M 1255** **VEGESACK M 1250**
HAMELN M 1251 **SIEGEN M 1254** **WORMS M 1253**

Displacement:	362 tons *standard* (378 tons *full load*)
Dimensions:	137¾ (*pp.*), 144¼ (*o.a.*) × 26¼ × 9 feet
Guns:	2—20 mm. AA.
Machinery:	2 Mercedes-Benz diesels. 2 shafts. B.H.P.: 4,000=15 kts.
Complement:	40

Notes

Built in France by Chant et Atl. Mécaniques de Normandie, Cherbourg, under the " off-shore " programme for the Federal German Navy. All similar to the French *Mercure*, except for slight differences in details and armament. Kamewa variable pitch propellers. *Vegesack* was launched on 21 May 1959 and *Hamelin* on 20 Aug. 1959. *Vegesack* commissioned on 10 Sep. 1959. *Detmold* on 20 Feb. 1960, *Worms* on 30 Apr. 1960, *Siegen* on 9 July 1960, *Passau* on 15 Oct. 1960. Pennant Nos.: above.



SCHLESWIG (after lengthening) — 1962, *Erich Groner*

18 " Lindau " Class

CUXHAVEN M 1078
DÜREN M 1079
FLENSBURG M 1084
FULDA M 1086
GÖTTINGEN M 1070
KOBLENZ M 1071
KONSTANZ M 1081
LINDAU M 1072
MARBURG M 1080
MINDEN M 1085
PADERBORN M 1076
SCHLESWIG M 1073
TÜRINGEN M 1074
ULM M 1083
VÖLKLINGEN M 1087
WEILHEIM M 1077
WETZLAR M 1075
WOLFSBURG M 1082

Displacement:	370 tons *standard* (425 tons *full load*)
Dimensions:	137¾ (*pp.*), 147¾ (*o.a.*) × 27¼ × 8½ feet
Guns:	1—40 mm. AA.
Machinery:	Maybach diesels. 2 shafts. B.H.P.: 4,000=15-16 (*max*) kts.
Complement:	46

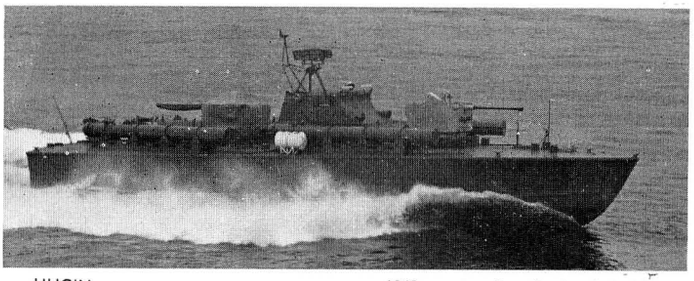
Notes

Lindau, first German-built vessel for the Federal German Navy since the war, was launched on 16 Feb. 1957. Built by Yacht- & Bootswerft, Burmester, Bremen-Burg. Seventeen similar *Kustenminensuchboote* were built in German yards in 1958-60. The hull is of entirely wooden construction and laminated with plastic glue. The engines are built of non-magnetic materials. The first six, *Göttingen, Koblenz, Lindau, Schleswig, Türingen* and *Wetzlar*, were modified with lower bridges in 1958-59. *Schleswig* was lengthened by 6¾ feet in 1960, and all the others were similarly extended in 1960-61. *Fulda* commissioned on 5 Mar. 1960 and *Volklingen* on 21 May 1960. Pennant Nos. above.

Ocean Minesweeper Notes

All six of the coal-burning ocean minesweepers built during the Second World War, namely *Seeschlange* of the " M 43 " type, and *Seepferd, Seestern, Seehund, Seegiel*, and *Seelöwe* of the " M 40 " type, are out of commission. They were stricken from the Navy List in 1960 and laid up as accommodation vessels, without engines, etc., in several naval bases.

MOTOR TORPEDO BOATS



HUGIN 1962, *courtesy Boat Services Ltd. A/S*

2 " Nasty " Type

HUGIN P 6191 **MUNIN** P 6192

Displacement:	80 tons *standard* (85 tons *full load*)
Dimensions:	80½ (*o.a.*) × 24½ × 6¾ feet
Guns:	2—40 mm. Bofors AA. (*Munin* 1—40 mm. only)
Tubes:	4—21 inch
Machinery:	2 Napier Deltic turbo blown diesels. B.H.P.: 6,200=45 kts.
Complement:	18 to 22

Notes

Ordered from Boat Services Ltd., A/S., Norway, in May 1959 and commissioned on 5 Nov. 1960.

1 New Construction. Modified " Brave " Type

STRAHL

Displacement:	95 tons *standard* (100 tons *full load*)
Dimensions:	96 (*w.l.*), 99 (*o.a.*) × 25 × 7 feet
Guns:	2—40 mm. AA. (see *Notes*)
Torpedoes:	4—21 inch in side launching chutes (see *Notes*)
Machinery:	3 Bristol Siddeley Marine Proteus gas turbines. 3 shafts. B.H.P.: 12,750=54 kts.
Complement:	22 (3 offiers, 3 petty officers, 16 ratings)

Note

Vosper Ltd., Portsmouth, announced on 22 Aug. 1960 signing of contract with Federal German Government to build this boat. Alternative armaments which can be mounted are: 4—21 inch torpedoes with 1—40 mm. AA. gun; or 2—21 inch torpedoes with 2—40 mm. AA. guns; or 8 ground mines with 1—40 mm. AA. gun. Allen reverse reduction gear boxes, and Rover gas turbine generating machinery. Launched on 10 Jan. 1962. " Strahl " means Beam. The design of this boat is modelled on that of the " Brave " class fast patrol boats in the Royal Navy.



PFEIL 1962, *courtesy Vosper Ltd., Portsmouth, Builders*

1 New Construction. Modified " Ferocity " Type

PFEIL P 6193

Displacement:	75 tons *standard* (80 tons *full load*)
Dimensions:	92 (*w.l.*), 95 (*o.a.*) × 23⅞ × 6½ feet
Guns:	2—40 mm. AA. (see *Notes*)
Torpedoes:	2 or 4—21 inch in side launching chutes (see *Notes*)
Machinery:	2 Bristol Siddeley Proteus gas turbines. 2 shafts. B.H.P.: 8,500=50 kts.
Complement:	14 (2 officers, 2 petty officers, 10 ratings)

Notes

Vosper Ltd., Portsmouth, announced on 22 Aug. 1960 signing of contract with Federal German Government to build this boat. Alternative armaments which can be mounted are- 4—21 inch torpedoes with 1—40 mm. AA. gun; or 2—21 inch torpedoes with 2—40 mm. AA. guns; or 8 ground mines with 1—40 mm. AA. gun. Allen reverse reduction gear boxes and Rover gas turbine generating machinery. Launched on 26 Oct. 1961. " Pfeil " means Arrow. The design of this boat is modelled on that of the prototype *Ferocity*, built as a private venture by Vosper Ltd. Commissioned on 27 June 1962.



HÄHER 1962 *Erich Gröner*

40 " Jaguar " Class

ALBATROS P6069	**GREIF** P 6071	**LEOPARD** P 6060	**REIHER** P 6089
ALK P 6084	**HABICHT** P 6075	**LÖWE** P 6065	**SEEADLER** P 6068
BUSSARD P 6074	**HÄHER** P 6087	**LUCHS** P 6061	**SPERBER** P 6076
DACHS P 6094	**HERMELIN** P 6095	**MARDER** P 6067	**STORCH** P 6085
DOMMEL P 6091	**ILTIS** P 6058	**NERZ** P 6096	**TIGER** P 6085
DRACHE	**JAGUAR** P 6059	**PANTHER** P 6064	**WEIHE** P 6082
ELSTER P 6088	**KONDOR** P 6070	**PELIKAN** P 6086	**WIESEL** P 6093
FALKE P 6072	**KORMORAN** P 6077	**PINGUIN** P 6090	**WOLF** P 6062
FUCHS P 6066	**KRANICH** P 6083	**PUMA** P 6097	**ZOBEL** P 6092
GEIER P 6073			

Displacement:	150 tons *standard* (183 tons *full load*)
Dimensions:	138 × 22 × 5 feet
Guns:	2—40 mm. AA. (single)
Tubes:	4—21 inch
Mines:	(2 torpedo tubes can be removed for 4 mines)
Machinery:	Mercedes-Benz or Maybach 20 cyl. diesels. 4 shafts. B.H.P.: 12,000=42 kts.
Complement:	33

Notes

Schnellboote " Type 55 ". 32 built by Fr. Lürssen, Bremen-Vegesack in 1957-62. Eight built by Krögerwerft, Rendsburg in 1958-62. Of composite construction, with steel frames, mahogany diagonal carvel hulls, alloy bulkheads and superstructure. Pennant Nos. above. *Kormoran* commissioned on 9 Nov. 1959, *Kranich* on 19 Dec. 1959, *Alk* on 14 Jan. 1960, *Storch* on 12 Mar. 1960, *Pelikan* on 30 Mar. 1960 and *Häher* on 5 Apr. 1960. *Dachs, Hermelin, Nerz, Puma, Wiesel* and *Zobel* are of improved type. A photograph of *Jaguar* appears in the 1958-59 to 1961-62 editions.

Motor Torpedo Boats—*continued*



EISMÖWE 1962, *Erich Gröner*

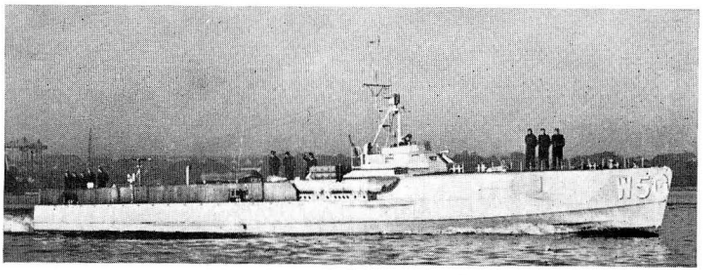
6 " Silbermöwe " Class

EISMÖWE (ex-*S* 1) P 6055 **SILBERMÖWE** (ex-*Silver Gull*) P 6052
RAUBMÖWE (ex-*S* 2) P 6056 **STURMMÖWE** (ex-*Storm Gull*) P 6053
UW 9 (ex-*Seeschwalbe*, P 6057, ex-*S* 3) **WILDSCHWAN** (ex-*Wild Swan*) P 6054

Displacement:	110 tons *standard* (155 tons *full load*)
Dimensions:	116 × 16¾ × 6 feet
Guns:	1—40 mm. AA., 4—20 mm. AA.
Tubes:	2—21 inch
Machinery:	3 Mercedes-Benz 20 cyl. diesels. B.H.P.: 7,500=38 kts. (*Seeschwalbe* has Maybach diesels; last three B.H.P.: 9,000=40 kts.
Radius:	600 miles
Complement:	19

Notes

German S-boote type. Built by Lürssen, Vegesack, *Silver Gull, Storm Gull* and *Wild Swan* in 1952-55, and S1, S2 and S3 in 1955-56. First two commissioned 2 July 1956, third 23 Apr. 1957. Pennant Nos. above. *Seeschwalbe* renamed *UW* 9 and is rated as a training vessel in 1961. A photograph of *Silbermöwe* appears in the 1960-61 and 1961-62 editions.



UW 11 1960, *Werner Schiefer*

FPB Type Training Vessels

UW 10 (ex-*FPB* 5030, ex-*S* 130) **UW 11** (ex-*FPB* 5208, ex-*S* 208)

Displacement:	105 tons
Dimensions:	114½ (*o.a.*) × 16¾ × 6 feet
Tubes:	2—21 inch
Machinery:	UW 10: 3 Napier-Deltic diesels. B.H.P.: 9,000=40 kts. UW 11: 3 Mercedes-Benz diesels. B.H.P.: 7,500=39 kts.
Oil fuel:	20 tons
Radius:	700 miles at 30 kts.

Notes

Former German " S " boats built by Schlichting, Travemünde, and Lürssen, Vegesack, Launched in 1944-45. Employed on fishery protection duties after the Second World War operating from Hamburg under the administration of the British Flag Officer, Germany. Reconstructed in 1955-56. Rated as *Schulboote*. NATO *Pennant Nos.*: W 49 and 50.

(The motor torpedo boat *Seeschwalbe*, *P* 6057 (ex-*S* 3), now renamed *UW* 9, is also rated as a training vessel—see under "Silbermöwe Class".)

PATROL BOATS



NIOBE **1961**, *Stefan Terzibaschitsch*

10 New Construction. " Niobe " Class

ARIADNE (23 Apr. 1960) **HANSA** (18 Nov. 1957) **NIOBE** (18 Aug. 1957)
FREYA (25 June 1960) **HERTHA** (18 Feb. 1961) **VINETA** (17 Sep. 1960)

Displacement:	150 tons *standard* (180 tons *full load*)
Dimensions:	108 (*pp.*) 113½ (*o.a.*) × 21½ × 5½ feet
Guns:	1—40 mm. AA.
A/S weapons:	D.C.
Machinery:	2 Mercedes-Benz diesels. 2 shafts. B.H.P.: 1,900=17 kts. (*Hansa:* 1 shaft. B.H.P.: 950=14 kts.)
Complement:	19

Notes

Inshore patrol boats, the design of which was strongly influenced by that of the British inshore minesweepers of the " Ham " class. Launch dates above. Pennant Nos. W 23, 24, 22, 26, 21, 25, respectively. All were built by Krogerwerft, Rendsburg, where four more W 27, 28, 29, 30, are under construction. Rated as *Küstenwachboote* (defence boats).

INSHORE MINESWEEPERS



GEMMA 1960, *Bundesmarine, Official*

ATAIR	**KREBS** M 1052	**PERSEUS** M 1090	**SPICA** M 1059
CAPELLA M 1098	**MARS**	**POLLUX**	**STEINBOCK** M 1091
DENEB	**MIRA** M 1050	**PLUTO** M 1092	**STIER**
FISCHE M 1096	**NEPTUN** M 1093	**REGULUS**	**URANUS** M 1099
GEMMA M 1097	**ORION**	**SCHÜTZE**	**WAAGE**
HERKULES M 1095	**PEGASUS**	**SIRIUS**	**WIDDER** M 1094
JUPITER M 1065			

Displacement:	200 tons *standard* (266 tons *full load*)
Dimensions:	144½ (*pp.*), 154½ (*o.a.*) × 22½ × 7¼ feet
Guns:	1—40 mm. AA. (2—40 mm. AA. designed). Only *Gemma* has 2
Machinery:	Maybach diesels. 2 shafts. Escher-Wyss propellers (see *Notes*). B.H.P.: 3,600=24·5 kts. Complement: 39

Notes

Fische, Krebs, Mira, Schütze, Steinbock, Stier and *Waage* were built by Abeking & Rasmussen, Lemwerder, *Widder* by Schürenstedt, Bardenfl., SM 26-30 by Schlichting, Travemünde. Design is a German type of fast minesweeper, a development of the "R" boats of the Second World War. All the boats of this class are named after stars. The first four boats originally had Voith Schneider propellers, but all boats now have Escher-Wyss propellers. *Schütze* commissioned on 14 Apr. 1959, *Gemma* on 10 May 1960. Pennant Nos. above.



MERKUR 1962, *Rolf Meinecke*

AT 1 (ex-*Regulus*, ex-*R* 137)	**MERKUR** (ex-*R* 134)	**SATURN** (ex-*R* 147)
CASTOR (ex-*R* 138)	**OT 1** (ex-*Jupiter*, ex-*R* 146)	**UW 5** (ex-*R* 150)

Displacement:	150 tons
Dimensions:	135 × 19 × 5¼ feet
Guns:	1—20 mm. AA. (*Castor* and others have 4—20 mm. AA, *AT 1* has 1—40 mm. AA. and 1—20 mm. AA.)
Machinery:	Diesel. B.H.P.: 2,200=19 kts. 2 Voith-Schneider propellers

Notes

Transferred by U.S. Navy, being returned to Germany in 1956. NATO *Pennant Nos.*: M 1055, M 1051, M 1066, W 52, M 1057, W 47, respectively. *Capella, Mars, Pollux, Sirius* and *Spica* were stricken from the list on 20 Feb. 1959 to be accommodation hulks without engines. *Jupiter* was renamed OT 1 for asdic training duties, and R 150, renumbered UW 5, is a training vessel for the submarine weapons school. *Regulus* (ex-*R* 137) was renamed AT 1 in 1962. *Orion* (ex-*R* 132) and *Rigel* (ex-*R* 135) were paid off in 1961.



ARKTURUS 1962, *Erich Groner*

ALDEBARAN (ex-*R* 131, ex-*R* 91)	**SKORPION** (ex-*R* 139, ex-*R* 120)
ARKTURUS (ex-*R* 151, ex-*R* 128)	**UW 4** (ex-*R* 149, ex-*R* 101)
	WEGA (ex-*R* 130, ex-*R* 67)

Displacement:	125 tons
Dimensions:	124 × 19 × 4⅜ feet
Guns:	1—20 mm. AA.
Machinery:	2 MAN diesels. B.H.P.: 1,840=20 kts. 2 Voith-Schneider propellers

Notes

NATO *Pennant Nos.*: M 1060, M 1062, M 1068, W 46 and M 1069, respectively. *Atair* (ex-*R* 145, ex-*R* 76) was taken out of commission in 1960. *UW 4* is a training vessel for the submarine weapons school. *Algol* (ex-*R* 148, ex-*R* 99), *Deneb* (ex-*R* 141, ex-*R* 127) and *Pegasus* (ex-*R* 143, ex-*R* 68) were paid off in 1961.



AT 2 1962 *Erich Groner*

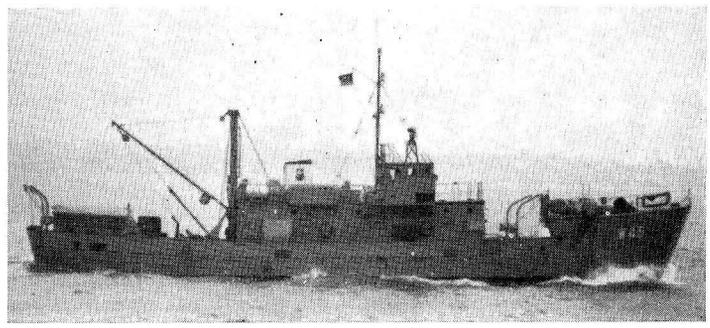
AT 2 (ex-*R* 154, ex-*R* 406)	**UW 6** (ex-*R* 155, ex-*R* 408)

Displacement:	140 tons
Dimensions:	128⅜ × 18½ × 5¼ feet
Guns:	1—20 mm. AA. (armaments vary)
Machinery:	2 MWM diesels. 2 shafts. B.H.P.: 2,550=21 kts.

Notes

Classed as training vessels, AT boat for naval gunnery training UW boat for submarine weapons school training. NATO *Pennant Nos.*: W 62 and 48, respectively. OT 1 (ex-*R* 153, ex-*R* 407) was taken out of service on 20 Feb. 1959 and replaced by *Jupiter*, renamed OT 1. AT 1 (ex-*R* 152, ex-*R* 266) was decommissioned on 15 Feb. 1961.

COASTAL PATROL BOATS



TM 2 1962, *Erich Groner*

5 Ex-Canadian "MMS 1" Type

FM 1 (ex-*W* 7, ex-*Pierre Mené*)	**UW 1** (ex-*W* 10, ex-*Adrien Magnier*)
FM 2 (ex-*W* 8, ex-*Malgré Tout*)	**TM 1** (ex-*UW* 3, ex-*W* 12, ex-*No.* 186)
	TM 2 (ex-*UW* 2, ex-*W* 11, ex-*Miss Andrée*)

Displacement:	140 tons
Dimensions:	118 × 22 × 11 feet
Guns:	1—20 mm. AA.
Machinery:	(FM 1, 2, UW 1, TM 2) 1 Fairbanks-Morse diesel. B.H.P.: 450=11 kts. (TM 1) 1 National diesel. B.H.P.: 500=11 kts.
Oil Fuel:	23 tons
Radius:	3,300 miles
Complement:	18

Notes

Ex-Canadian built MMS 1 fitted with high fo'cs'le. These vessels were Belgian fishing vessels before being bought and rebuilt in Germany. Re-rated training vessels in 1957, *FM* boats for *fernmeldeschule* (telecommunications), *UW 1* for underwater training, and *TM*-boats for divers. *FM 3*, ex-*W 9*, was taken out of service on 3 Oct. 1959, and *UW 2* was renamed *TM 2*. *Pennant Nos.*: W 54, 55, 44, 53 and 45 respectively.



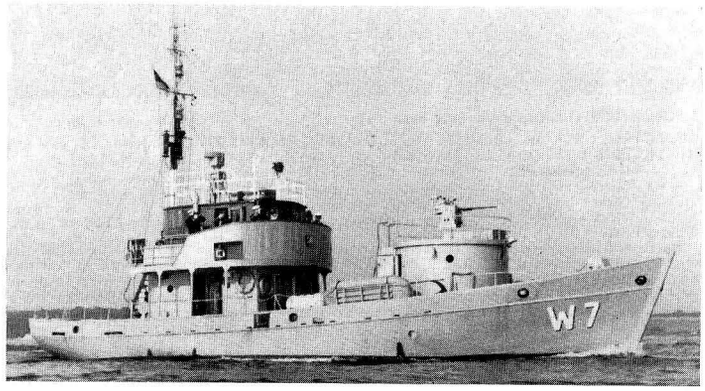
KW 17 1962, *Erich Groner*

KW 15 (ex-*H* 15)	**KW 17** (ex-*H* 17)	**KW 19** (ex-*H* 19)
KW 16 (ex-*H* 16)	**KW 18** (ex-*H* 18)	**KW** 20 (ex-*H* 20)

Displacement:	45 tons *standard* (60 tons *full load*)
Dimensions:	83 (*pp.*), 93½ (*o.a.*) × 15½ × 4 feet
Guns:	2—20 mm. AA. (*KW* 19, 4—20 mm. AA.)
Machinery:	2 Mercedes-Benz diesels. 2 shafts. B.H.P.: 1,600=25 kts. (last three, B.H.P.: 2,000=over 25 kts.)
Complement:	18

Notes

Formerly USN 54, 55, 56, 57, 58, 59, ex-Weser River Patrol boats. Launched in 1951-53. *Pennant Nos.*: W 15-20. Re-rated as *Küstenwachboote* in 1960. *KW* 19 was allocated to the Gunnery School as a training vessel.



KW 7 1962 *Rolf Meinecke*

KW 1 (ex-*H* 1, ex-*W* 1, ex-*KFK* 309)	**KW 6** (ex-*H* 6, ex-*W* 15)
KW 2 (ex-*H* 2, ex-*W* 2, ex-*KFK* 613)	**KW 7** (ex-*H* 7, ex-*W* 16)
KW 3 (ex-*H* 3, ex-*W* 3, ex-*KFK* 561)	**KW 8** (ex-*H* 8, ex-*W* 17)
KW 4 (ex-*H* 4, ex-*W* 13)	**KW 9** (ex-*H* 9, ex-*W* 18)
KW 5 (ex-*H* 5, ex-*W* 14)	**KW 10** (ex-*H* 10, ex-*W* 19)

Displacement:	112 tons
Dimensions:	78⅜ × 22 × 9 feet
Guns:	1—20 mm. AA.
Machinery:	1 diesel motor. B.H.P.: 150=9 kts.
Radius:	1,200 miles
Complement:	16

Notes

KFK (*Kriegsfischkutter*) type picket boats (wachtboote). Launched in 1943. Rebuilt in 1951-52. Rated as *Hafenschutzboote* (harbour defence boats) until 1960 when they were re-rated as *Küstenwachboote*. *Pennant Nos.*: W 1-10.

3 Ex-R.A.F. Type

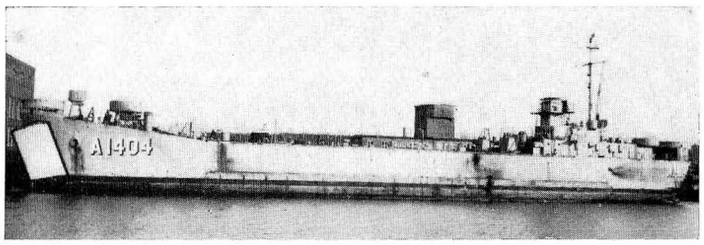
FL 9 (ex-R.A.F. 2763)	**FL 10** (ex-R.A.F. 2765)	**FL 11** (ex-R.A.F. 2766)

Displacement:	70 tons
Dimensions:	95¼ × 16½ × 4¼ feet
Machinery:	Maybach diesels. 2 shafts. B.H.P.: 3,200=30 kts.
Radius:	600 miles at 20 kts.

Notes

Built by Kröger, Rendsburg. Former *Flugsicherungsboote* of the R.A.F. station List/Sylt. Commissioned on 1 Sep. 1961.

TANK LANDING SHIPS



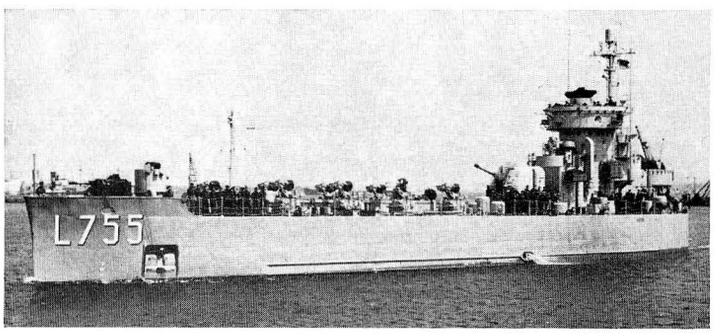
A 1404 — 1962, *Stefan Terzibaschitsch*

Ex-U.S.S. **GREER COUNTY**, *LST* 799 — Ex-U.S.S. **SALINE COUNTY**, *LST* 1101
Ex-U.S.S. **RICE COUNTY**, *LST* 1089

Displacement:	1,653 tons *standard* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 feet
Guns:	6—40 mm. (2 twin, 2 single)
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1, 700 = 11 kts.

Notes
Former United States tank landing ships of the 511-1152 series transferred in 1961.

MEDIUM LANDING SHIPS (ROCKET)



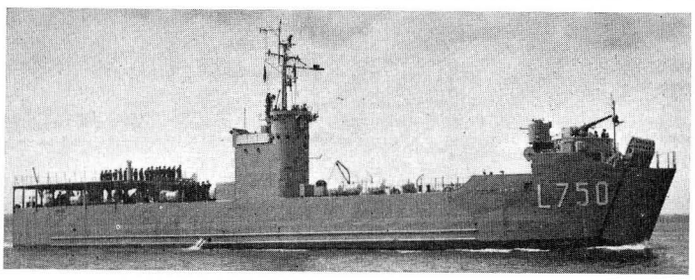
NATTER — 1960, *Bundesmarine, Official*

NATTER (ex-*Thames River*, LSM(R) 534) — **OTTER** (ex-*Smyrna River*, LSM(R) 532)

Displacement:	994 tons (*attack*), 1,084 tons *full load*
Dimensions:	204½ (*w.l.*), 206½ (*o.a.*) × 34½ × 7¼ feet
Guns:	1—5 inch, 4—40 mm. AA. (twin), 16—5 inch rocket projectors
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 2,800 = 12·6 kts.

General Notes
Former United States Medium Landing Ships (Rocket). Rated as *Landungsünterstützungsboote* (see *Notes* below). *Pennant Nos.*: L 755 and L 754 respectively.

MEDIUM LANDING SHIPS



KROKODIL (helicopter landing deck aft) — 1962, *Wright & Logan*

EIDECHSE L 751 (ex-U.S.S. *LSM* 491) — **SALAMANDER** L 752 (ex-U.S.S. *LSM* 553)
KROKODIL L 750 (ex-U.S.S. *LSM* 537) — **VIPER** L 753 (ex-U.S.S. *LSM* 558)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8⅓ feet
Guns:	2—40 mm. AA. (twin)
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 2,800 = 12·5 kts.

General Notes
Rated as *Landungsboote*. All the above six landing ships (two LSM(R) and four LSM types) were purchased from the United States for about $6,000,000 and transferred to Germany on 5 Sep. 1958 at Charleston, S.C. Refitted in 1959. They constitute the German *Landungsgeschwader* No. 2. A large port quarter oblique aerial view of *Viper* appear in the 1960-61 edition (Page 434, Addenda), and a starboard bow surface view of *Salamander* in the 1960-61 and 1961-62 editions. *Krokodil* has a landing deck for helicopters aft, and all the squadron could be so fitted.

Landing Craft Notes
LCU 779 was transferred from the U.S.A. under MAP. In Dec. 1961 four landing craft were ordered from Schliekerwerft, Hamburg. Delivery is planned for 1962.

REPAIR SHIPS

Ex-U.S.S. **DIOMEDES**. *ARB* 11 (ex-*LST* 1119) — Ex-U.S.S. **ULYSSES**, *ARB* 9 (ex-*LST* 967)

Notes
Transferred under MAP in June 1961. General particulars as Tank Landing Ships above.

Ex-U.S.S. **MILLARD COUNTY**. *LST* 987
Ex-U.S.S. **MONTGOMERY COUNTY**. *LST* 1041

Notes
In 1960 two ships of the U.S. LST type were purchased for conversion into repair ships similar to the U.S. ARB type. For particulars, see under Tank Landing Ships above.

WIELAND

Displacement:	130 tons
Dimensions:	121½ × 19⅔ × 5 feet

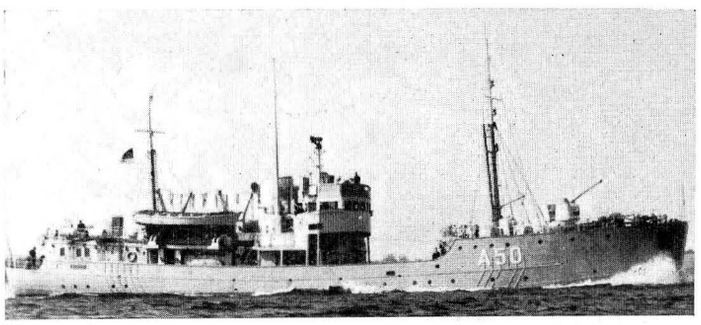
Notes
Repair ship of the former German Navy. Commissioned on 10 Aug. 1956. Rated as *schwimmwerkstattschiff* (floating workshop). *Pennant No.*: Y 804.

MEMMERT (ex-U.S.N. 106, ex-*India*, ex-*BP* 34)

Measurement:	270 tons *gross*
Dimensions:	100 (*pp*), 108¼ (*o.a.*) × 31 × 5¾ feet
Machinery:	2 diesels. 2 shafts

Notes
Salvage vessel with a derrick. Built in 1940 at Walsum (Rhine river). Now rated as *Torpedoklarmachschiff* (torpedo repair ship). *Pennant No.*: Y 805. Has a crew of five.

DEPOT SHIPS AND TENDERS



EIDER — 1962, *Rolf Meinecke*

EIDER (ex-*Catherine*) A 50 — **TRAVE** (ex-*Cornelia*) A 51

Displacement:	480 tons *standard* (750 tons *full load*)
Dimensions:	164 (*pp.*), 177½ (*o.a.*) × 27½ × 14 feet
Guns:	1—40 mm. AA., 1—20 mm. AA.
Machinery:	*Eider:* Triple Expansion, 1 shaft. I.H.P.: 750 = 12 kts. *Trave:* Mercedes-Benz diesels. 1 shaft. B.H.P.: 900 = 12 kts.
Fuel:	*Trave:* 153 tons, *Eider:* 130 tons
Complement:	45

Notes
Former British " Isles " type minesweepers (trawlers). Built in Canada. *Trave* converted from steam (triple expansion) to diesel propulsion. Both commissioned on 2 July 1956. Formerly employed as training ships at the re-opened Naval Academy at Flensburg-Mürwik, Photograph of *Trave* in the 1957-58 to 1959-60 editions. Formerly rated as *Begleitschiffe*, but re-rated as tenders in 1960 and now employed as Cadet Training Ships at Kiel.

EMS (ex-U.S.N. 104, ex-*Harle*). *Pennant No.* A 53

Measurement:	660 tons *gross*
Dimensions:	185⅔ (*o.a.*) × 29 × 15½ feet
Guns:	4—20 mm.
Machinery:	Sulzer diesels. B.H.P.: 1,000 = 12 kts.

Notes
Built in 1941 by Kremer & Sohn, Elmshorn. Commissioned on 11 Dec. 1956. Photograph in the 1960-61 and 1961-62 editions.

OSTE (ex-U.S.N. 101, ex-*Puddefjord*). *Pennant No.*: A 52

Measurement:	567 tons *gross*
Dimensions:	160 × 29⅔ × 17 feet
Guns:	2—20 mm. AA.
Machinery:	1 diesel. 1 shaft. B.H.P.: 1,000 = 12 kts.

Notes
Built in 1943 at Akers Mekaniske Vaerkstad, Oslo. Taken over from U.S. Navy. Both above, are tenders (*Begleitschiffe*) of the *Schnelle Minensuchgeschwader* consisting of R boats.

FRIEDRICH VOGE (ex-*Kurefjord*, 1943)

Measurement:	179 tons *gross*
Machinery:	Diesel. B.H.P.: 500

Notes
Former tug, now tender of the *Erprobungsstelle fur Marinewaffen* in Eckernförde for experimental purposes.

KARL KOLLS (ex-*Salmo*, ex-*Gerda I*, ex-*Margarethe*, ex-*Noara*)

Measurement:	189 tons *gross*
Machinery:	H.P.: 160

Notes
Former small freighter. Now tender of the *Erprobungsstelle fur Marinewaffen* in Eckernförde for experimental purposes.

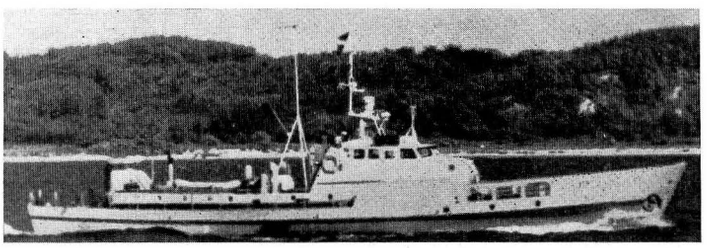
KNURRHAHN — **ALTER HAFEN** — **ARCONA**

Notes
Special accommodation vessels. Ships of the former German Navy transferred from U.S.A. (*Arcona* from Royal Navy). *Pennant Nos.*: Y 811, Y 810 and Y 809, respectively.

OTTO MEYCKE

Notes
Taucherboot (diving vessel). Commissioned on 5 Aug. 1960.

LAUNCHES



FL 5 — 1962, *Erich Gröner*

FL 5 (ex-*H* 11, ex-*P* 1) — **FL 7** (ex-*H* 13, ex-*P* 3)
FL 6 (ex-*H* 12, ex-*P* 2) — **FL 8** (ex-*H* 14, ex-*P* 4)

Displacement:	45 tons *standard* (60 tons *full load*)
Dimensions:	83 (*pp.*), 93½ (*o.a.*) × 15½ × 4 feet
Machinery:	2 Mercedes-Benz diesels. B.H.P.: 2,000 = 25 kts.

Notes
Built 1951-52. All ten are similar to U.S. Coast Guard 93-ft. type. Formerly rated as harbour defence vessels, but re-rated as *Flugsicherungsboote* (employed as air/sea rescue launches) in 1959. *Pennant Nos.* W 11-14. Guns removed. Crew: 14.

FL 1 (ex-*FL* 51, ex-*MSM* 2) — **FL 2** (ex-*FL* 52, ex-*MSM* 3) — **FL 3** (ex-*FL* 50, ex-*MSM* 1)

Displacement:	56 tons *standard* (75 tons *full load*)
Dimensions:	90 × 16⅔ × 5¾ feet
Machinery:	Diesels. 2 shafts. B.H.P.: 1,650 = 25 kts.

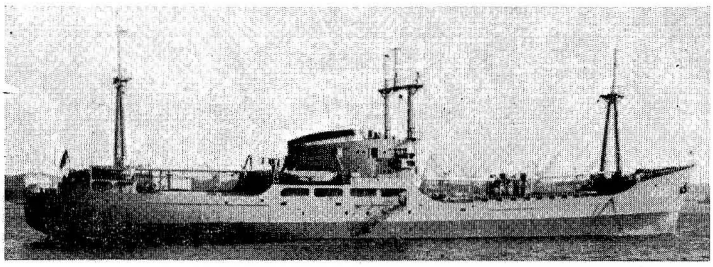
Notes
Ex-German Air Force sea rescue launches. Formerly USN 51, 52, 50. Now tenders of the Naval Academy (Marineschule) in Mürwick. *Pennant Nos.*: W 57, 58 and 59.

FL 4 (ex-*Falke*, ex-*FL* 4)

Displacement:	30 tons
Dimensions:	62⅔ × 10½ × 4 feet
Machinery:	Diesel motors. B.H.P.: 300 = 14 kts.

Notes
Built in 1939 at Krögerwerft, Warnemünde. Smaller type of aircraft rescue boat of the Second World War. Photo in 1955-56 edition. *Pennant No.*: W 60.

SUPPLY SHIPS (*Tross-schiffe*)



ANGELN 1961, *Stefan Terzibaschitsch*

ANGELN (ex-*Borée*) **DITHMARSCHEN** (ex-*Hébé*)
Measurement: 2,111 tons *gross*
Machinery: Pielstick diesels. 1 shaft. B.H.P.: 3,000=17 kts.

Notes
Both built by Ateliers et Chantiers de Bretagne, Nantes. Purchased from shipowners S. N. Caënnaise, Caen. Launched in 1954-55. Commissioned on 27 Nov. 1959 and 19 Dec. 1959, respectively. *Pennant Nos.*: A 56 and A 57, respectively. Rated as *Materialtransporter*.

SCHWARZWALD (ex-*Amalthee*)
Measurement: 1,103 tons *gross*
Machinery: Sulzer diesel, 2-str. single acting. B.H.P.: 3,000=17 kts.

Notes
Built by Ch. Dubigeon, Nantes. Launched 31 Jan. 1956. Purchased from Soc. Navale Caënnaise in Feb. 1960. Commissioned as ammunition transport. *Pennant No.* A 1400.

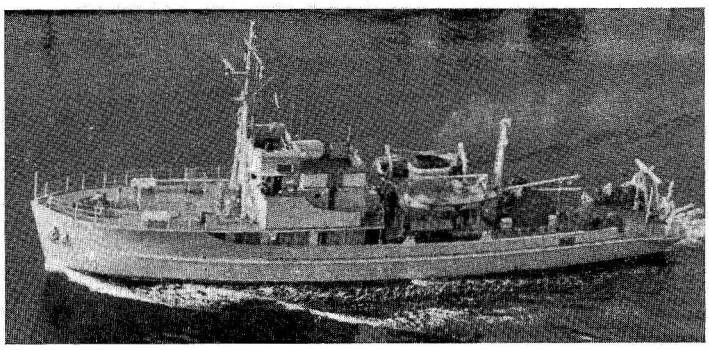
SAUERLAND (ex-*Rolandseck*)
Measurement: 1,299 tons *gross*, 1,755 tons *deadweight*
Dimensions: 233½×35½×16½ feet
Machinery: M.A.N. diesel. B.H.P.: 1,380=12 kts.

Notes
Built by Atlas Werke, Bremen. Completed in 1953. Purchased in 1960 for service with the armed forces' supply organisation. In service 1960. *Pennant No.*: Y 830.

PFÄLZERLAND (ex-*Lucetta*)
Measurement: 299 tons *gross*, 521 tons *deadweight*
Dimensions: 156½×26×8½ feet
Machinery: 2 M.W.M. diesels. 2 shafts. B.H.P.: 300=10·5 kts.

Notes
Built by W. & E. Sielaff, Büsum. Completed in 1956. Purchased in 1960 for service with the armed forces' supply organisation. In service 1960. *Pennant No.*: Y 831.

TRIALS VESSELS



ADOLF BESTELMEYER 1962, *Erich Groner*

ADOLF BESTELMEYER (ex-*BYMS* 2213) **RUDOLF DIESEL** (ex-*BYMS* 2279)
Displacement: 270 tons *standard* (350 tons *full load*)
Dimensions: 136×24½×8 feet
Machinery: 2 diesels. 2 shafts. B.H.P.: 1,000=15 kts.

Notes
Of U.S. YMS type. Built in 1943. Used for gunnery purposes. *Pennant No.*: Y 881, Y 889.

VIKTORIA (ex-*Herzog Friedrich*) Y 808
Measurement: 111 tons *gross*
Dimensions: 84⅝×16¾×8½ feet
Machinery: 1 Deutsche Werke diesel. B.H.P.: 240.

Notes
Built in 1901. Commissioned on 1 Dec. 1960 as an experimental vessel.

TF 101 **TF 102** **TF 103** **TF 104** **TF 105**
Displacement: 110 tons
Dimensions: 80½×21×8½ feet
Machinery: Speed=10 kts.

Notes
Of the KFK (*Kriegs-Fisch Kutter*) type. Torpedo recovery boats. Built in 1944. TF 101-105 are in the *Erprobungsstelle für Marinewaffen* (experimental station for naval weapons) *Pennant Nos.*: Y 883, T 884, Y 885, Y 886 and Y 835, respectively.

TF 25 **TF 26**
Displacement: 25 tons
Dimensions: 74×13¾×4 feet
Machinery: Dieseis. 1 shaft. B.H.P.: 320=14½ kts.

Notes
Former German Air Force torpedo recovery boats. Patrol vessels employed as training tenders. Pennant Nos.: Y 806 and 807. Oil fuel 2 tons. Radius 1,300 miles at 12 kts.

SAIL TRAINING SHIPS

GORCH FOCK
Displacement: 1,760 tons *standard* (1,870 tons *full load*)
Dimensions: 229⅝ (*w.l.*), 257 (*o.a.*)×39½×15¾ feet
Machinery: Auxiliary MAN diesel. B.H.P.: 800=11 kts.
Sail area: 21,141 sq. ft. (speed of up to 15 kts. under sail)
Radius: 1,990 miles
Complement: 206 (10 officers, 56 ratings, 140 cadets)

Notes
Sail training ship of the improved "Horst Wessel" type. Barque rig. Launched by Blohm & Voss, Hamburg, on 23 Aug. 1958 and commissioned on 17 Dec. 1958.

NORDWIND
Displacement: 100 tons
Dimensions: 78¾×22×9 feet
Machinery: Diesel. B.H.P.: 150=8 kts. (Sail area 2,037½ sq. ft.)

Notes
Ketch, ex-Kriegsfischkutter (KFK). Photograph in the 1954-55 edition. There are other vessels of various sailing types: *Achat, Argonaut, Borasco, Diamant, Dompfaff, Flibustier, Friebeuter, Geuse, Gödicke Michel, Gunnar, Hadubrand, Hunding, Kaper, Klipper, Korsar, Kuckuck, Likendeeler Magellan, Mime, Mistral, Monsun, Nachtigall, Ortwin, Ostwind, Pampero, Samum, Seeteufel, Seigmund, Störtbecker, Taifun, Tornado, Westwind, Wiking, Vitalienbrüder.*

OILERS

4 New Construction Medium Type

Displacement: 4,500 tons

Notes
Projected under the new construction programme. To be ordered in the near future.

9 New Construction Small Type

Displacement: 1,200 tons

Notes
Planned in the new construction programme. To be laid down shortly.

BODENSEE (ex-*Unkas*) A 54 **WITTENSEE** (ex-*Sioux*) A 55
Displacement: 1,200 tons
Measurement: 1,230 tons *deadweight*, 980 tons *gross*
Dimensions: 208½×32½×15 feet
Machinery: Diesels. B.H.P.: 1050—1,250=12 kts.

Notes
Built by P. Lindenau, Kiel-Friedrichsort. Launched on 19 Nov. 1955 and on 23 Sep. 1958, respectively. Commissioned on 26 Mar. 1959. These ships are nearly identical.

FRANKENLAND (ex *Münsterland*, ex-*Powell*) Y 827
Displacement: 16,310 tons
Measurement: 11,700 tons *gross*
Dimensions: 521¾×70¼×37½ feet
Machinery: Diesels. B.H.P.: 5,800=13·5 kts.

Notes
Built by Lithgows, Glasgow. Launched in 1950. Commissioned on 29 Apr. 1959.

EMSLAND (ex-*Antonio Zotti*) Y 828 **MUNSTERLAND** (ex-*Angela Germana*) Y 829
Measurement: 6,200 tons *gross* (*Emsland*), 6,191 tons *gross* (*Münsterland*)
Dimensions: 461×54¼×25¾ feet
Machinery: Diesel. C.R.D.A., B.H.P.: 4,800 (*Emsland*), Fiat, B.H.P.: 5,500 (*Münsterland*)=13 kts.

Notes
Built by C.R.D.A., Monfalcone, and Ansaldo, Genoa, respectively. Both launched in 1943. Completed in 1947 and 1946, respectively. Purchased in 1960 from Italian owners. Converted in 1960-61 by Schliekerwerft, Hamburg, and Howaldtswerke. Hamburg, respectively. In service 4 Oct. and 16 Oct. 1961. Civilian crew.

JEVERLAND (ex-*Ammerland*, ex-*Köngsdal*) Y 826
Displacement: 14,890 tons
Measurement: 9,949 tons *gross*
Dimensions: 492½×66×36½ feet
Machinery: Diesels. B.H.P.: 4,100=12 kts.

Notes
Built by Vulkan, Bremen. Launched in 1937. Commissioned on 29 Apr. 1959.

BORKUM (ex-U.S.N. 105, ex-*Borkum*) Y 824
Displacement: 450 tons
Measurement: 265 tons *gross*
Dimensions: 124¾×26½×12 feet
Machinery: Diesels. Speed=6 kts.

Notes
Built by Flender Lübeck. Launched in 1939. Former German motor tanker. Commissioned on 1 Nov. 1956.

EUTIN (ex-*Ramsöy*) Y 825
Displacement: 410 tons
Machinery: Speed=6 kts.

Notes
Small oiler. Built by Menzer, Geesthact. Launched in 1943. Commissioned 1 July, 1956.

Surveying Vessel Notes
Surveying vessels include *Süderoog, Gauss, Hooge, Ruden, Atair, Rungholt* and *Wega* (full particulars and photographs of which appear in the 1959-60 and earlier editions), but all these belong to the Federal Ministry of Transport and were officially deleted from the Navy List in 1960.

Fishery Protection Vessel Notes
Fishery Protection Vessels include *Poseidon, Anton Dohrn, Meerkatze, Frithjof* and *Uthorn* (full particulars and photographs of which appear in the 1959-60 and earlier editions), but all these belong to the Federal Ministry for Agriculture and Fisheries and were officially stricken from the Navy List in 1960.

TUGS

4 New Construction

Displacement: 262 tons *standard*
Dimensions: 100⅜ (*o.a.*)×25¼ feet
Machinery: 1 Deutz diesel. B.H.P.: 800=12 kts.

Notes
Built by Fr. Schichan Bremerhaven. Launched in 1961. To be commissioned in 1962. Equipped for firefighting. Harbour tugs.

EISBÄR **EISVOGEL**
Displacement: 560 tons *standard*
Dimensions: 125½ (*o.a.*)×31½×7⅞ (15⅛ *max.*) feet
Guns: Can carry 1—40 mm. AA. Bofors
Machinery: 2 Maybach diesels. 2 shafts. B.H.P.: 2,400=13 kts.

Notes
Built by J. G. Hitzler, Lauenburg. Launched on 9 June 1960 and 28 Apr. 1960, respectively and commissioned on 1 Nov. 1961 and 11 Mar. 1961. Can serve as icebreakers or tugs.

PASSAT (ex-U.S.N. 103, ex-*Passat*)
Displacement: 460 tons
Dimensions: 118×26¼×13 feet
Machinery: Diesels. B.H.P.: 650=11 kts.

Notes
Built at Deutsche Werke, Kiel. Launched in 1936. Commissioned on 30 Nov. 1956. Pennant No.: Y 800.

PELLWORM (ex-U.S.N. 102, ex-*Pellworm*)
Displacement: 500 tons
Measurement: 276 tons *gross*
Dimensions: 127×28×11⅔ feet
Machinery: 1 diesel. 1 shaft. B.H.P.: 800=12 kts.

Notes
Pellworm was built in 1939 at Schichau, Königsberg. Commissioned on 1 Nov. 1956. Pennant No.: Y 801.

PLÖN
Measurement: 101 tons *gross*
Machinery: H.P.: 350

Notes
Tug for Kiel purchased in 1956. Pennant No.: Y 802.

BLAUORT (1 Dec. 1960)
KNECHTSAND Y 814 (18 Dec. 1958)
LANGENESS Y 819 (29 Apr. 1959)
LÜTJE HÖRN Y 812 (1 Oct. 1958)
MELLUM Y 813 (10 Nov. 1958)
NORDSTRAND Y 817 (25 Feb. 1959)
SCHARHÖRN Y 815 (2 Jan. 1959)
TRISCHEN Y 818 (7 Apr. 1959)
VOGELSAND Y 816 (21 Jan. 1959)

Notes
Small harbour tugs of the "Lütje Hörn" type. Commissioning dates and pennant numbers against names above.

GERMANY (EAST)

Commander-in-Chief, Volksmarine : Rear Admiral Willi Ehm
Chief of Naval Staff : Rear Admiral Heinz Neukirchen
Naval Personnel Strength : 11,000 (1,000 officers, 10,000 men)

FRIGATES



1—61 1960, *Erich Gröner*

4 Ex-U.S.S.R. " Riga " Type

ERNST THÄLMANN (ex-*KSS 401*) **KARL LIEBKNECHT** (ex-*KSS 404*)
FRIEDRICH ENGELS (ex-*KSS 403*) **KARL MARX** (ex-*KSS 402*)

Displacement:	950 tons *standard*
Dimensions:	278¾ (*o.a.*) × 31½ × 9 feet
Guns:	3—3·9 d.p. (single mount); 4—37 mm.AA. (paired vertically)
Tubes:	3—21 inch
A/S weapons:	4 depth charge projectors
Mines:	50 (capacity)
Machinery:	Geared turbines. 2 shafts. S.H.P.: 24,000 = 28 kts.
Complement:	190

Notes

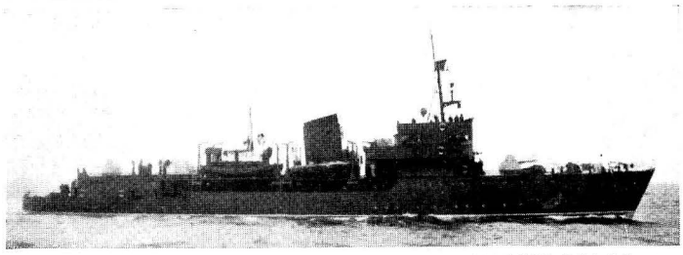
Frigates or light destroyer escorts of the Russian so called " Riga " type, known officially as the " SKR " type. Designed to carry 50 mines. Originally numbered 1-61, 1-62, 1-63, 1-64, then KSS 40, KSS 41, KSS 42, KSS 43, and latterly KSS 401, KSS 402, KSS 403, KSS 404. A fifth ship of this type was burnt out at the end of 1959 and is reported to be lying at Rostock as a total wreck. A starboard quarter aerial view of KSS 40 showing minelaying stern, appears in the 1960-61 edition.

New Construction Notes

The projected frigates designed under the code name Falke (Falcon) have apparently not materialised.

Destroyer Notes

It has been reported that the East Germany Navy is to receive five " Skoryi " class destroyers from the U.S.S.R. in the near future.



Ex-ERNST THÄLMANN *Added* 1959, *Erich Gröner*

1 Ex-Danish Type

Ex-ERNST THÄLMANN (ex-*Dorsch*, ex-*Hvidbjörnen*)

Displacement:	1,100 tons
Dimensions:	220 × 34½ × 16¾ feet
Guns:	1—3·3 inch (85 mm.), 2—37 mm. AA., 4—25 mm. AA.
Machinery:	Triple expansion. 1 shaft. 1,800 = 14·5 kts.
Boilers:	2 water tube
Oil fuel:	140 tons
Radius:	3,300 miles at 12 kts.

Notes

Ex-Danish *Hvidbjörnen*. Launched in 1928. Modernised in 1953-54 at Matthias Thesen Yard, Wismar. Ex-name *Dorsch* was borne only during this period for disguise. Fitted with new boilers at Rostock in the spring of 1957. Employed as a training ship for officer candidates.

CORVETTES

6 " Habicht I " Class

MLR 6-31 **MLR 6-32** **MLR 6-33** **MLR 6-34** **MLR 6-35** **MLR 6-36**

Displacement:	500 tons (6-31, 6-32), 600 tons (6-34, 6-35, 6-36)
Dimensions:	193½ (*o.a.*) × 26½ × 11¾ feet
Guns:	1—3·4 inch, 4—20 mm. AA. (except 6-31, 6-32, 1—37 mm. AA., 2—20 mm. AA., 8—15 mm. AA.)
A/S weapons:	4 D.C.T.
Mines:	Fitted for laying
Machinery:	Diesels. 2 shafts. B.H.P.: 2,800 = 18 kts. (6-31-6-34: B.H.P.: 2,400 = 17 kts.)

Notes

Ex-331-336, ex-031-036, formerly 611 to 616. Code name: Habicht I (Hawk). Modified German M 40 war type minesweepers but with diesel propulsion. Prefabricated in five sections and assembled at Volkswerft, Stralsund. Laid down in 1952-53, launched in 1952-54 and completed in 1952-54. All welded. MLR 6-33 sank early in 1958 but was salvaged and repaired in 1959. A starboard bow photograph of MLR 6-31 (ex-331, ex-031, ex-611) appears in the 1956-57 to 1959-60 editions.

This class has not been effective as minesweepers, and have been converted, four to corvettes or patrol vessels and two for other assignments.

PATROL VESSELS (Submarine Chasers)

12 U.S.S.R. " S.O.1 " Type

774 **846**

Displacement:	120 tons
Dimensions:	120 × 20 × 7 feet
Guns:	4—25 mm. AA. (2 twin mounts)
A/S weapons:	3 five-barrelled rocket launchers. D.C. tracks.

Notes

Submarine chasers. Fitted with mine rails. Class includes Pennant Nos. listed above.

25 " Hai " Class

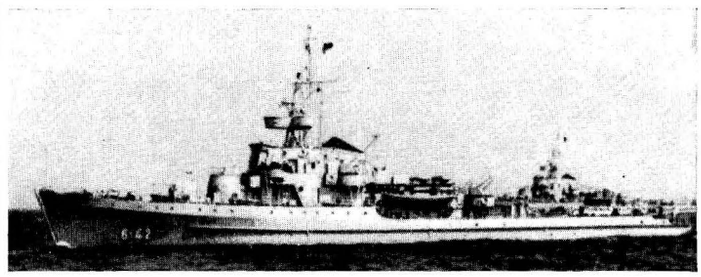
PC 1 **PC 2** **PC 3** **PC 4**

Displacement:	370 tons
Dimensions:	187 × 27⅞ × 9 feet
Machinery:	Diesels. Speed 28 kts.

Notes

Submarine chasers under construction at Peenewerft, Wolgast. Code name :" Hai." Not more than four reported to be in service.

MINESWEEPERS



6—42 1960, *Erich Gröner*

10 " Krake " Class

MLR 6-17 **MLR 6-41** **MLR 6-43** **MLR 6-45** **MLR 6-47**
MLR 6-37 **MLR 6-42** **MLR 6-44** **MLR 6-46** **MLR 6-91**

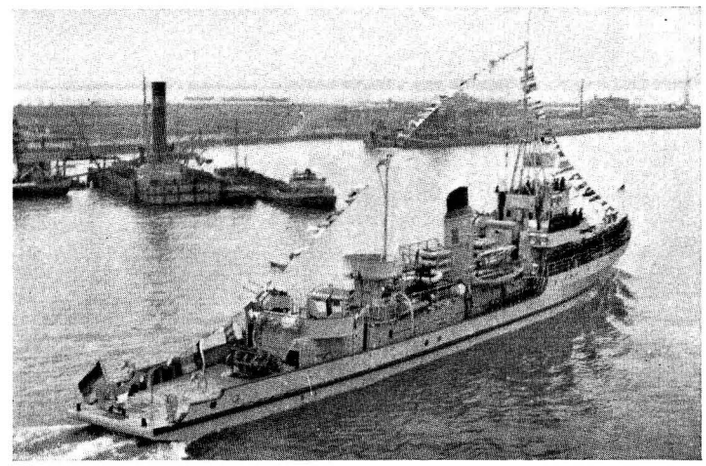
Displacement:	650 tons
Dimensions:	229⅔ × 26½ × 12½ feet
Guns:	1—85 mm. AA.; 10—25 mm. AA. (paired vertically)
A/S weapons:	4 D.C.T.
Mines:	Fitted for laying
Machinery:	Diesels. 2 shafts. B.H.P.: 34,000 = 18 kts.
Complement:	80 (peace), 96 (war)

Notes

Built in 1956-58 at Peenewerft, Wolgast. The hull form is similar to that of 6-11. Code name: Krake. The first four were completed in 1958, originally for Poland, but not delivered. Appearance is different compared with the first type, the squat wide funnel being close to the bridge work with a lattice mast and radar. Minelayers and minesweepers. A port broadside photograph of MLR 6-47 appears in the 1958-59 and 1959-60 editions, and a starboard quarter aerial view of MLR 6-42, showing minesweeping stern, appears in the 1960-61 edition.

Nomenclature Notes

These ten MLR and the following twelve MLR are reported to have changed their tactical number. Numbers reported are 117, 121, 137, 141, 142, 143, 144, 145, 146, 147. On 1 Mar. 1961 they were given the names of the capitals of districts, etc., of Eastern Germany, viz.: COTTBUS, DRESDEN, ERFURT, FRANKFURT, GERA, HALLE, KARLMARXSTADT, LEIPZIG, MAGDEBURG, NEUBRANDENBURG, POTSDAM, ROSTOCK, SCHWERIN, SUHL and eight other towns.



MLR 6-11 (aerial view showing minesweeping stern) 1960, *Erich Gröner*

6 " Habicht II " Class

MLR 6-11 **MLR 6-12** **MLR 6-13** **MLR 6-14** **MLR 6-15** **MLR 6-16**

Displacement:	550 tons
Dimensions:	213 (*o.a.*) × 26½ × 11¾ feet
Guns:	1—3·4 inch, 2—20 mm. AA., 8—25 mm. AA. (paired vertically)
A/S weapons:	4 D.C.T.
Mines:	Fitted for laying
Machinery:	2 diesels. 2 shafts. B.H.P.: 2,800 = 18 kts.

Notes

Ex-6-91, 6-92, 6-71-74, ex-6-111-116, ex-621 to 626. These vessels are a modification of MLR 6-31 type but lengthened by 20 feet amidships. Built at Wolgast Peene Yard. All welded. All completed 1955-56. Habicht II type. A starboard broadside photograph of MLR 6-16 (ex-6-71, ex-6-116, ex-626) appears in the 1956-57 to 1959-60 editions.

MOTOR TORPEDO BOATS

27 Ex-U.S.S.R. "P 6" Class

101	**104**	**107**	**201**	**204**	**207**	**301**	**304**	**307**
102	**105**	**108**	**202**	**205**	**208**	**302**	**305**	**308**
103	**106**	**109**	**203**	**206**	**209**	**303**	**306**	**309**

Displacement:	100 tons
Machinery:	Speed = 40 kts.

Notes

Large interchangeable motor torpedo boats acquired in 1957-60 from the U.S.S.R.

4 " Seeteufel " Class

Displacement:	150 tons
Guns:	2—25 mm. A.A.
Tubes:	2—21 inch
Machinery:	Diesels. Speed = 35 kts.

Notes

Torpedoschnellboote. Laid down in 1958. Building at Peenewerft, Wolgast.

8 " Iltis " Class

5-91 **5-92** **5-93** **5-94** **5-95** **5-96** **5-97** **5-98**

Displacement:	55 tons
Guns:	2—25 mm. AA., 2—15 mm. AA.
Tubes:	2—21 inch
Machinery:	Speed = 40 kts.

Notes

First launched in 1956 at Schiffswerft, Rosslau. Seven more were built at Peenewerft, Wolgast. Code names: " Forelle " and " Iltis."

Motor Torpedo Boats—*continued*



MTB RUSSIAN TYPE 1960. *Erich Gröner*

9 Ex-U.S.S.R. " PA 3 " Class

5-61 (ex-821)	**5-63** (ex-823)	**5-65** (ex-825)	**5-67** (ex-827)
5-62 (ex-822)	**5-64** (ex-824)	**5-66** (ex-826)	**5-68** (ex-828)
			5-69 (ex-829)

Displacement: 50 tons
Dimensions: 85½ × 20 × 6 feet
Guns: 4—25 mm. AA.
Tubes: 2—21 inch
Machinery: Speed = 42 kts.

Notes
Built in 1952-55. Purchased from U.S.S.R. in 1957. Fitted out by Peenewerft, Wolgast.

COASTAL DEFENCE BOATS



G 171 1956, *Erich Gröner*

48 " Sperber " Class

3-11	**3-21**	**3-31**	**3-41**	**G 111**	**G 121**
3-12	**3-22**	**3-32**	**3-42**	**G 112**	**G 122**
3-13	**3-23**	**3-33**	**3-43**	**G 161**	**G 131**
3-14	**3-24**	**3-34**	**3-44**	**G 162**	**G 132**
3-15	**3-25**	**3-35**	**3-45**	**G 171**	**G 141**
3-16	**3-26**	**3-36**	**3-46**	**G 172**	**G 142**
3-17	**3-27**	**3-37**	**3-47**	**G 181**	**G 151**
3-18	**3-28**	**3-38**	**3-48**	**G 182**	**G 152**

Displacement: 53 tons (73 tons *full load*), 3-31 to 3-38, 3-41 to 3-48, G 121-152, 56 tons (76 tons *full load*)
Dimensions: 85½ (*o.a.*) 3-31 to 3-38, 3-41 to 3-48, G 121-152, 96 × 16 × 5 feet
Guns: 3—15 mm. AA., 10 D.C.
Machinery: 3 Jumo diesels. 3 shafts. B.H.P.: 1,800 = 26 kts. (G type, 27 kts.)

Notes
Code name: "perber. All built in 1951-54. *Küsten Schutzboote*. G 111 to G 152 belonged to the *Grenzschutz-polizei* (frontier patrol). Some are no longer effective.

MINESWEEPING BOATS

50 " Schwalbe " Class

7-11	**7-21**	**7-31**	**7-41**	**7-51**	**D 01**	**D 08**
7-12	**7-22**	**7-32**	**7-42**	**7-52**	**D 02**	**D 09**
7-13	**7-23**	**7-33**	**7-43**	**7-53**	**D 03**	**D 10**
7-14	**7-24**	**7-34**	**7-44**	**7-54**	**D 04**	**D 11**
7-15	**7-25**	**7-35**	**7-45**	**7-55**	**D 05**	**D 12**
7-16	**7-26**	**7-36**	**7-46**	**7-56**	**D 06**	**D 13**
7-17	**7-27**	**7-37**	**7-47**	**7-57**	**D 07**	**D 14**
				7-91		

Displacement: 50 tons
Dimensions: 85½ × 14¾ × 4¾ feet
Guns: 2—25 mm. AA.
Machinery: Diesels. 2 shafts. B.H.P.: 300 = 17 kts.
Oil fuel: 1·5 tons

Notes
Launched in 1954-56. D 01 to D 14 boats belonging to S.H.D. are of the same type but without armament.

TRAINING SHIPS

WILHELM PIECK
Displacement: 200 tons
Machinery: Diesel. 1 shaft. B.H.P.: 106 = 8 kts.

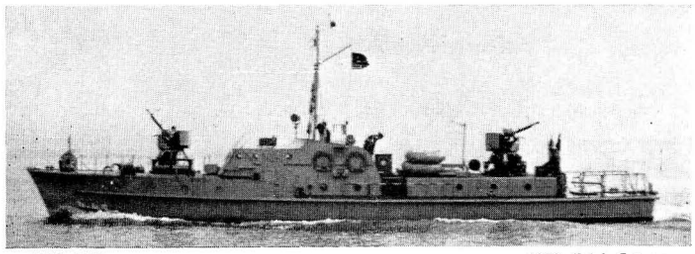
Notes
Brigantine employed as a school ship. Built in 1951. Photo in 1955-56 edition.
Also two yachts, *Ernst Thälmann*, 150 tons, and *Jonny Scheer*, 120 tons, and six more, *Max Reichpietsch*, *Albin Köbis*, *Helgoland* and *Knechtsand*, and *Freundschaff* and *Patriot*, former coastal minesweepers, T-61 type.

SURVEYING VESSELS

JOHANN L. KRÜGER (1951) **HELMUT JUST** (1952)
Displacement: 475 tons
Measurement: 260 tons *gross*
Machinery: Diesel. B.H.P.: 400 = 10·5 kts.
Dimensions: 128 × 24 × 11 feet

Notes
Built at VEB Rosslauer Shipyard, Rosslau, River Elbe. Launch dates above. There are also *Jordan* and *Magnetologe* (1954), 135 tons, 10 kts. (seiner type); *Arkona*, *Darsser Ort* and *Stubbenkammer* (1956), 55 tons, 10 kts. (cutter type); and *Flaggtief and Hydrograph* (1953) 30 tons, 8 kts.

HARBOUR DEFENCE BOATS



KRS 4-45 1959, *Erich Gröner*

45 " Tummler " Class

4-11	**4-21**	**4-31**	**4-41**	**4-91**	**4-97**	**G 311**	**G 323**
4-12	**4-22**	**4-32**	**4-42**	**4-92**	**4-98**	**G 312**	**G 324**
4-13	**4-23**	**4-33**	**4-43**	**4-93**	**4-99**	**G 313**	**G 331**
4-14	**4-24**	**4-34**	**4-44**	**4-94**		**G 314**	**G 332**
4-15	**4-25**	**4-35**	**4-45**	**4-95**		**G 321**	**G 333**
4-16	**4-26**	**4-36**	**4-46**	**4-96**		**G 322**	**G 334**

Displacement: 50 tons
Guns: 2—25 mm. AA. or 4—15 mm. AA. Also carry 4 D.C.
Machinery: 3 Jumo diesels. 3 shafts. B.H.P.: 1,000 = 25 kts.

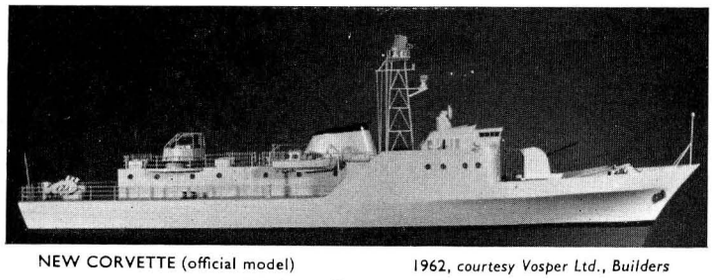
Notes
Motor boats of all metal construction. *Küsten-und Reede Schulzboote* (Coastal and harbour defence boats). Code names: " Tümmler" and "Delphin."

ROBERT KOCH
Displacement: 1,520 tons
Dimensions: 217 (*o.a.*) × 32 × 14¾ feet
Machinery: 2 diesels. 2 shafts. B.H.P.: 1,800 = 14·5 kts.
Complement: 44

Notes
Fishery Protection Vessel. Of the trawler type. Launched in 1955 at the Neptun Yard, Rostock, and completed at the Matthias-Thesen Yard, Wismar. Two small vessels are *Professor Henking* (ex-*Neues Deutschland*), and *Dr. Friedrich Wolf* (1957), both 100 tons, 14 kts.).
Tugs include **H 31. H 32. H 33. H 34. H 35. H 36. H 37.** Displacement: 700 tons. Machinery: H.P.: 1,200 = 14 kts. Ex-921 to 927. Particulars vary. First five somewhat smaller. Also *Wismar*, small salvage tug. A photograph of H 36 (ex-926) appears in the 1956-57 to 1959-60 editions.
Sixteen auxiliary vessels service the East German Navy, including **H 42** (ex-931), Netlayer, **H 44** (ex-941) Oiler, **H 41** (ex-932), **H 43** (ex-933), Tender. For experimental purposes there are *Rosa Luxemburg* (1950) and *Wilhelm Liebknecht* (1951), 475 tons, 10 kts.; *Meteor* (1956) 435 tons, 10·5 kts.; and *Saturn* (1956), 110 tons, 9 kts. Also *Alfred Merz*, buoy tender; *Karl F. Gauss*, seiner type; the icebreakers *Eisbar* and *Eisvogel*, 1,100 H.P., and two tankers.

GHANA

CORVETTES



NEW CORVETTE (official model) 1962, *courtesy Vosper Ltd., Builders*

2 New Construction

Displacement: 440 tons *light*, 500 tons *standard* (590 tons *full load*) estimated
Dimensions: 162 (*w.l.*), 177 (*o.a.*) × 28½ × 10 feet
Guns: 1—4 inch single HA/LA, 1—40 mm. AA.
A/S weapons: 1 Squid triple-barrelled depth charge mortar
Machinery: 2 Bristol Siddeley Maybach diesels (type M.D. 472). B.H.P.: 6,000 = 20 kts.
Complement: 50 (5 officers, 45 ratings) *approx.*

Notes
Anti-submarine vessels of an entirely new type designed by Vosper Ltd., Portsmouth, a joint venture with Vickers-Armstrongs, Ltd., one ship being built by each company. Comprehensively fitted with Asdic, air and surface warning radar, Vosper roll damping fins, and air conditioning throughout excepting machinery spaces. The electrical power supply is 440 volts, 60 cycles a.c. A very interesting patrol vessel design, and an example of what can be achieved on a comparatively small platform to produce an inexpensive and quickly built anti-submarine vessel.

INSHORE MINESWEEPERS

2 " Ham " Class

AFADZATO (ex-*Ottringham*) **YOGAGA** (ex-*Malham*)
Displacement: 120 tons *standard* (159 tons *full load*)
Dimensions: 100 (*pp.*), 107½ (*o.a.*) × 22 × 5¾ feet
Guns: 1—20 mm. Oerlikon AA.
Machinery: 2 Paxman diesels, B.H.P.: 1,000 = 14 kts.
Oil fuel: 15 tons
Complement: 15 to 22

Notes
Malham, commissioned on 2 Oct. 1959, and *Ottringham*, commissioned on 30 Oct. 1959. sailed for Ghana on 31 Oct. 1959, and were officially transferred from the Royal Navy to the Ghana Navy at Takoradi at the end of Nov. 1959 and renamed after hills in Ghana. They are painted with black hull and white upper works.

SEAWARD DEFENCE BOATS

2 " Ford " Class

ELMINA **KOMENDA**
Displacement: 120 tons *standard* (160 tons *full load*)
Dimensions: 110 (*pp.*), 117¼ (*o.a.*) × 20 × 5 feet
Guns: 1—40 mm. Bofors AA.
Machinery: 2 Davey Paxman diesels (type 12 YHAXM supercharged) on outer shafts, B.H.P.: 1,000. 1 Foden diesel (type F.D. 6) on centre shaft, B.H.P.: 100. Speed = 18kts.
Complement: 19

Notes
Built for Ghana by Yarrow & Co. Ltd., Scotstoun, Glasgow. Both laid down on 18 Oct. 1961. *Komenda* was launched on 17 May 1962. Fitted with roll damping fins.

ROYAL HELLENIC NAVY

Administration

Chief of Naval Staff:
Vice-Admiral Dimitrios Kiosses, R.H.N.

Naval Attaché in London:
Captain Marios Stavridis, R.H.N.

Personnel

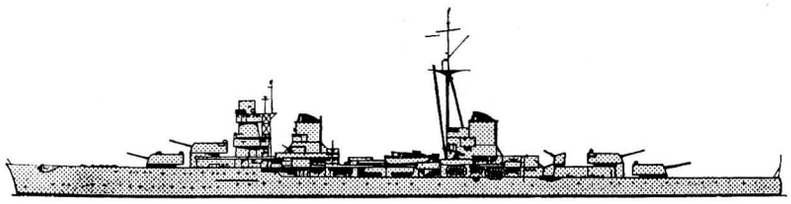
1962: 18,945, (1,797 officers and 17,148 ratings)
(conscript, 18 months or enlistment)

Mercantile Marine

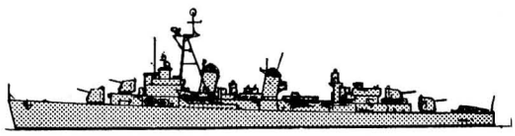
Lloyd's Register of Shipping:
1,012 vessels of 5,439,204 tons *gross*

Silhouettes

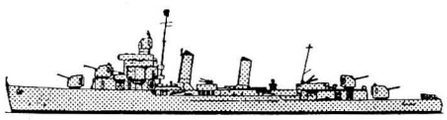
Scale: 150 ft. = 1 inch



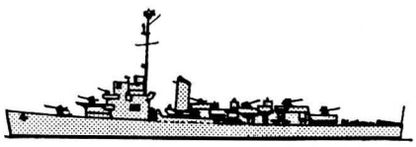
ELLI



ASPIS, LONCHI, SFENDONI, VELOS



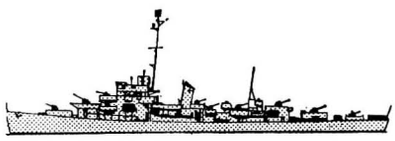
DOXA, NIKI



AETOS



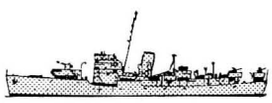
ARMATOLOS *Class*



LEON, IERAX, PANTHIR

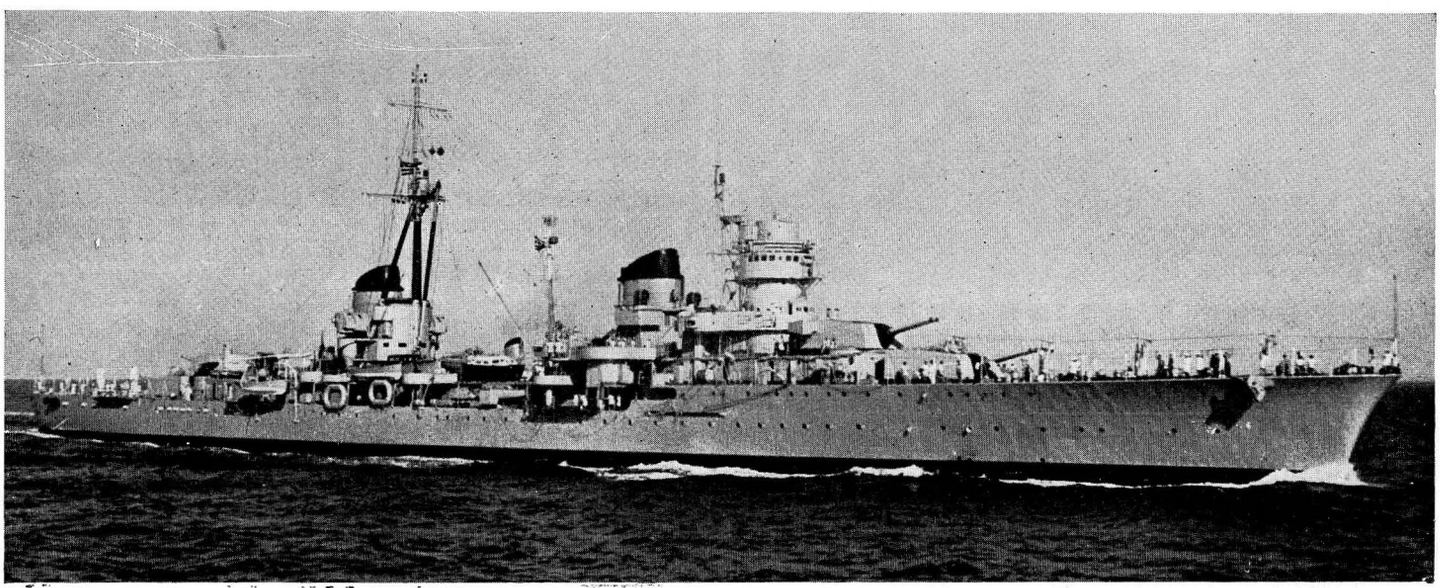


ADRIAS, ASTINGS



"FLOWER" *Class*

CRUISER



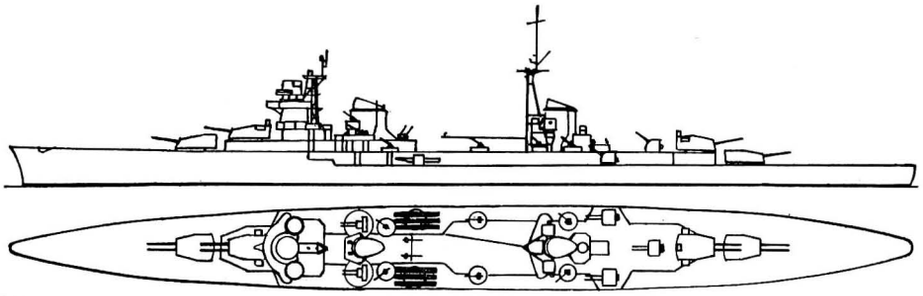
ELLI (destroyer's mast and funnel in background amidships

1957, *Royal Hellenic Navy, Official*

1 Ex-Italian Type

ELLI (ex-*Eugenio di Savoia*)

Pennant No.:	C. 24
Builders:	Ansaldo
Laid down:	Jan. 1932
Launched:	16 Mar. 1935
Completed:	Jan. 1936
Displacement:	8,856 tons *standard* (10,835 tons *full load*)
Dimensions:	Length: 592 (*w.l.*), 610¼ (*o.a.*) feet. Beam: 57½ feet. Draught: 16½ feet
Guns:	8—6 inch, 53 cal., 6—3·9 inch, 47 cal. AA., 14—40 mm. AA. (see *Notes*)
Torpedo tubes:	Removed
A/S weapons:	2 D.C.T.
Mines:	100 (see *Notes*)
Armour:	4"-1½" Vert. side, 1½", Deck, 4" Turrets, 3" Barbettes, 4" C.T.
Machinery:	Belluzzo geared turbines. 2 shafts. S.H.P.: 110,000 = 36·5 kts.
Boilers:	6 Yarrow, of 3-drum type
Oil fuel:	1,731 tons
Radius:	3,670 miles at 20 kts.
Complement:	551



Notes

Former Italian light cruiser with an originally designed displacement of 7,283 tons. This ship was assigned to Greece by the Italian Peace Treaty, turned over to Greece in July 1950, and was refitted by Cantieri Navali de Taranto before being delivered on 2 July 1951. She is an enlarged edition of the Italian *Montecuccoli*. Reported to be very lightly constructed. Equipped for minelaying, and can carry 66 to 112 mines, according to size and type. Formerly mounted 8—37 mm. AA. and 12—20 mm. AA. in place of 14—40 mm. AA. *Elli* is now obsolete and it is expected that she will be decommissioned and discarded in the near future.

Note to Drawing:

Port elevation and plan. Scale: 128 feet = 1 inch.

Photograph Notes

A port broadside view appears in the 1956-57 to 1959-60 editions.

DESTROYERS

Ex-U.S. DD Type

" Fletcher " Class

ASPIS (ex-U.S.S. *Conner*, *DD* 582)
LONCHI (ex-U.S.S. *Hall*, *DD* 583)
SFENDONI (ex-U.S.S. *Aulick*, *DD* 569)
VELOS (ex-U.S.S. *Charette*, *DD* 581)
— (ex-U.S.S. *Bradford*, *DD* 545)
— (ex-U.S.S. *Brown*, *DD* 546)

Displacement:	2,100 tons *standard* (3,050 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39½ × 12¼ (*mean*), 18 (*max.*) feet
Guns:	4—5 inch, 38 cal. d.p.; 6—3 inch, 50 cal. AA. (three twin)
Tubes:	5—21 inch (quintuple bank)
A/S weapons:	Hedgehogs, side launching torpedo racks, depth charges
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000 = 35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	300

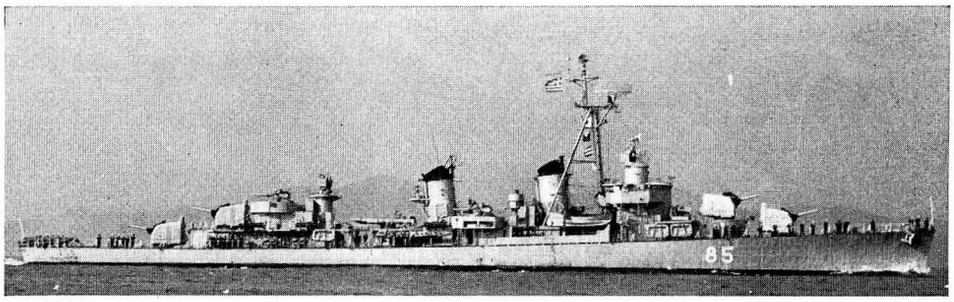
Name	*Laid down*	*Launched*	*Completed*
Aspis	16 Apr. 1942	18 July 1942	8 June 1943
Lonchi	16 Apr. 1942	18 July 1942	6 July 1943
Sfendoni	14 May 1941	2 Mar. 1942	27 Oct. 1942
Velos	20 Feb. 1941	3 June 1942	18 May 1943
Bradford	28 Apr. 1942	12 Dec. 1942	12 June 1943
Brown	27 June 1942	22 Feb. 1943	10 July 1943

Name	*Pennant No.*	*Builders*
Aspis	D 06	Boston Navy Yard
Lonchi	D 56	Boston Navy Yard
Sfendoni	D 85	Consolidated Steel Corp., Texas
Velos	D 16	Boston Navy Yard
Bradford	D	Bethlehem (S. Pedro)
Brown	D	Bethlehem (S. Pedro)

Notes
Former United States destroyers of the "Fletcher" class, transferred from the U.S.A. to Greece under the Mutual Defense Assistance Program, *Aspis*, *Lonchi* and *Velos* at Long Beach, California, on 15 Sep. 1959, 9 Feb. 1960 and 15 June 1959, respectively, and *Sfendoni* at Philadelphia on 21 Aug. 1959. *Aspis* means Shield. *Bradford* and *Brown* are to be transferred on 18 Oct. 1962.



ASPIS — 1961, *A. & J. Pavia*



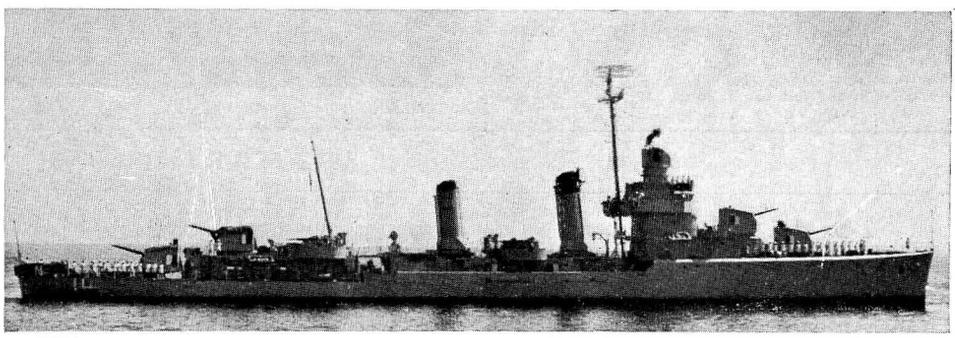
SFENDONI — 1960, *Royal Hellenic Navy, Official*

2 Ex-U.S. DD Type

" Gleaves " Class

	DOXA (ex-U.S.S. *Ludlow*)	**NIKI** (ex-U.S.S. *Eberle*)
Name:	*Doxa*	*Niki*
Pennant No.:	20	65
NATO No.:	D 220	D 225
Builders:	Bath Iron Works Corpn.	Bath Iron Works Corpn.
Laid down:	18 Dec. 1939	12 Apr. 1939
Launched:	11 Nov. 1940	14 Sep. 1940
Completed:	5 Mar. 1941	D Dec. 1940

Displacement:	1,630 tons *standard* (2,572 tons *full load*)
Dimensions:	348½ (*o.a.*) × 36 × 18 (*max.*) feet
Guns:	4—5 inch, 38 cal., 12—40 mm. (2 quadruple, 2 twin), see *Gunnery Notes*.
Torpedo tubes:	Removed
A/S weapons:	Hedgehogs, side launching torpedo racks, depth charges
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 50,000 = 34·5 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	600 tons
Radius:	5,000 miles at 15 kts.
Complement:	250 (*war*), 188 peace



NIKI — 1956, *A. & J. Pavia*

General Notes
Taken over from the United States Navy on 18 Apr. 1951. Formerly DD 438 and DD 430, respectively, of the "Gleaves" class destroyers. As modernised, now have tripod foremast.
Nomenclature Notes
Names mean "Glory" and " Victory," respectively.
Gunnery Notes
The six 20 mm. AA. guns have been removed, it was officially stated in 1962.
Torpedo Notes
The 5—21 inch torpedo tubes originally mounted in a quintuple bank were removed.

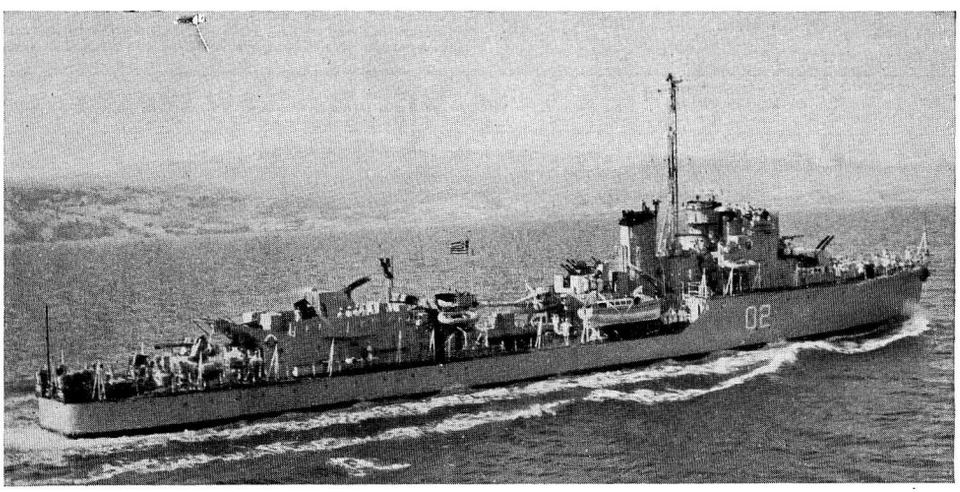
FRIGATES (*Escort Destroyers*)

2 Ex-British " Hunt " Type III

	ADRIAS (ex-*Tanatside*)	**ASTINGS** (ex-*Catterick*)
Name:	*Adrias*	*Astings*
Pennant No.:	02	15
NATO No.:	210	215
Builders:	Yarrow & Co. Ltd., Scotstoun, Glasgow	Vickers-Armstrongs Ltd., Barrow-in-Furness
Laid down:	26 June 1941	1 Mar. 1941
Launched:	30 Apr. 1942	22 Nov. 1941
Completed:	4 Sep. 1942	12 June 1942

Displacement:	1,050 tons *standard* (1,435 tons *full load*)
Dimensions:	280 × 31½ × 7⅝ feet (*mean*)
Guns:	4—4 inch (2 twin), 1—4-barrelled 2 pdr. pompom, 3—20mm. AA. (except *Adrias*), 2—40 mm. AA. (*Adrias* only)
Tubes:	2—21 inch
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. S.H.P.: 19,000 = 29 kts. (designed), 26 kts. sea speed
Boilers:	2, of 3-drum type
Oil fuel:	265 tons
Radius:	3,500 miles at 14 kts.; 2,400 miles at 20 kts.; 1,000 miles at 26 kts.
Complement:	146

General Notes
The above two vessels, officially classed as escort destroyers, belong to the modified " Hunt " Type III class (escort destroyers later reclassified as frigates), on loan from Great Britain. Another escort destroyer of this type, *Adrias* (ex-*Border*), was scrapped owing to heavy damage received when a mine blew away her fo'c's'le on 22 Oct. 1943.



ADRIAS — 1957, *R.H.N., Official*

Recent Disposals
Sister ships *Kanaris* (ex-*Hatherleigh*) and *Pindos* (ex-*Bolebroke*) were returned to Great Britain on 12 Dec. 1959 and sold for scrap in Greece, and it was officially stated in 1960 that *Miaoulis* (ex-*Modbury*) of the same class was also returned and similarly disposed of. *Adrias* (ex-*Tanatside*) and *Astings* (ex-*Catterick*) are being stricken in the near future.
All three of the ex-British " Hunt " Type II frigates (escort destroyers), *Aegaion* (ex-*Lauderdale*), *Kriti* (ex-*Hursley*) and *Themistocles* (ex-*Bramham*) were returned to Great Britain on 12 Dec. 1959 and sold for scrap in Greece.

FRIGATES *(Destroyer Escorts)*

4 Ex-U.S. DE Type
" Bostwick " Class

AETOS (ex-U.S.S. *Slater*) **LEON** (ex-U.S.S. *Eldridge*)
IERAX (ex-U.S.S. *Elbert*) **PANTHIR** (ex-U.S.S. *Garfield Thomas*)

Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36¾ × 12 (*max.*) feet
Guns:	3—3 inch, 50 cal. d.p., 6—40 mm., (3 twin) 14—20 mm. AA. (7 twin)
A/S weapons:	Hedgehog, side launching torpedo racks; 8 D.C.T., 1 D.C. rack
Machinery:	Diesel-electric. 2 shafts. B.H.P.: 6,000=20 kts.
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	220 (*war*)

Notes
Former American destroyer escorts of the " Bostwick " class. Their 3—21 inch torpedo tubes (triple mount) were removed. Transferred from U.S.A. in 1951 under the Mutual Defense Assistance Program. Formerly DE 766, DE 768, DE 173 and DE 193, respectively. Meanings of names are Eagle, Falcon, Lion and Panther. *Aetos* and *Ierax* transferred 15 Mar. 1951, *Leon* and *Panthir* 15 Jan. 1951. Re-named after late destroyer flotilla in Greek Navy bearing these names.

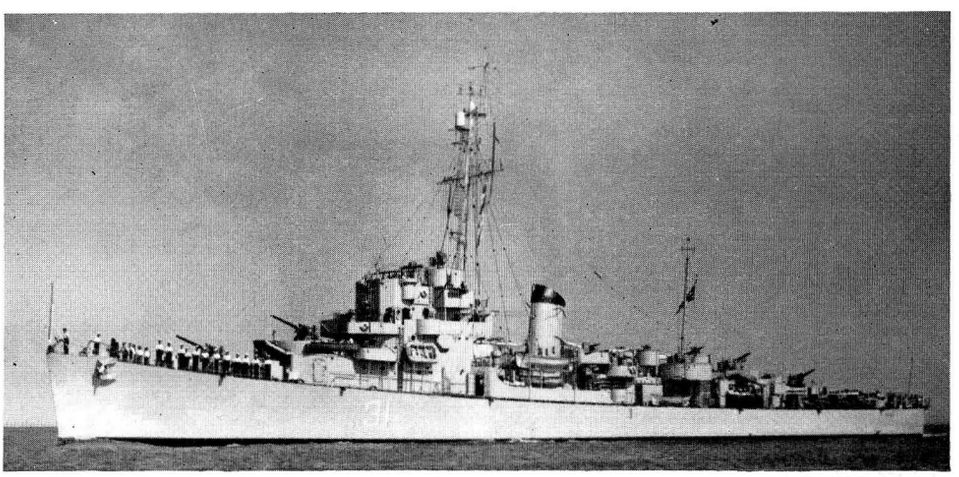
Name	*Laid down*	*Launched*	*Completed*
Aetos	9 Mar. 1943	13 Feb. 1944	1 May 1944
Ierax	1 Apr. 1943	23 May 1944	12 July 1944
Leon	22 Feb. 1943	25 June 1943	27 Aug. 1943
Panthir	23 Sep. 1943	12 Dec. 1943	24 Jan. 1944

Pennant No.	*NATO No.*	*Name*	*Builders*
01	D 212	*Aetos*	Tampa S.B. Co.
31	D 213	*Ierax*	Tampa S.B. Co.
54	D 217	*Leon*	Federal S.B. & D.D. Co.
67	D 227	*Panthir*	Federal S.B. & D.D. Co.

Recent Disposals
Of the two " Flower " class corvettes or frigates on loan from Great Britain, *Apostolis* has been returned to the Royal Navy, and *Tombazis* is to be returned in the near future.



LEON 1962, *A. & J. Pavia*



IERAX 1960, *Wright & Logan*

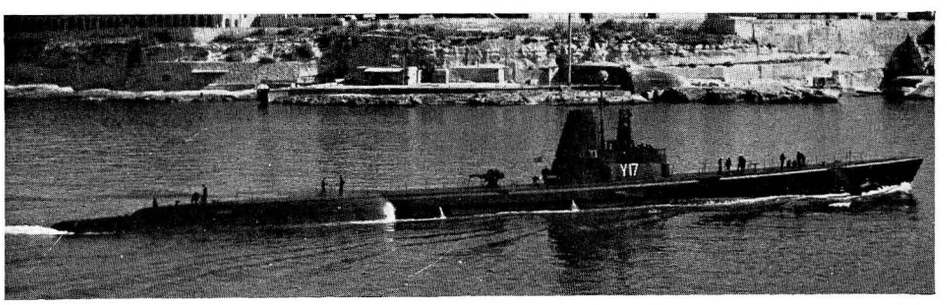
SUBMARINES

2 Ex-U.S. " Gato " Class

AMFITRITI (ex-*Jack*) **POSEIDON** (ex-*Lapon*

	Name:	*Amfitriti*	*Poseidon*
Pennant No.:		Y 17	Y 16
Builders:		Electric Boat Div., Gen. Dynamics Corp.	Electric Boat Div., Gen. Dynamics Corp.
Laid down:		2 Feb. 1942	21 Feb. 1942
Launched:		16 Oct. 1942	27 Oct. 1942
Completed:		6 Jan. 1943	23 Jan. 1943

Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311¾ × 27 × 17 feet
Guns:	1—5 inch, 25 cal., d.p.
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	G.M. 2-stroke diesels. B.H.P.: 6,500=21 kts. (*surface*). Electric motors, H.P.: 2,750=10 kts. (*submerged*)
Complement:	85



AMFITRITI 1959, *A. & J. Pavia*

Notes
Both loaned from the United States in 1957 under the Military Aid Programme. Have two engine rooms instead of one to reduce size of compartments. *Lapon* was transferred by the United States under M.A.P. on 8 Aug. 1957 and *Jack* on 21 Apr. 1958. A photograph of *Poseidon* appears in the 1958-59 to 1961-62 editions.

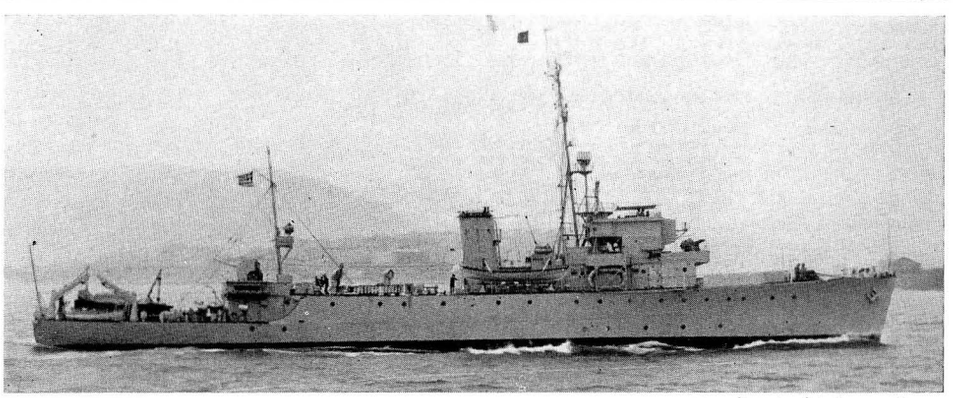
ESCORT MINESWEEPERS *(Corvettes)*

5 Ex-British " Algerine " Type Ocean Minesweepers (Officially classed as Corvettes)

ARMATOLOS (ex-*Aries*) **PIRPOLITIS** (ex-*Arcturus*)
MAHITIS (ex-*Postillion*) **POLEMISTIS** (ex-*Gozo*)
NAVMACHOS (ex-*Lightfoot*)

Displacement:	1,030 tons *standard* (1,325 tons *full load*)
Dimensions:	225 (*o.a.*) × 35½ × 11½ (*max.*) feet
Guns:	2—3 inch (U.S. Mk. 21), 4—20 mm. AA. (U.S.), 2 Colt-Browning M.G. (except *Machitis* no guns)
A/S weapons:	4 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,000=16·5 kts.
Boilers:	2, of 3-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 10 kts.
Complement:	85

Name	*No.*	*Builders*	*Launched*
Armatolos	M 12	Toronto Shipyard	19 Sep. 1942
Mahitis	M 58	Redfern Construction Co.	18 Mar. 1943
Navmachos	M 64	Redfern Construction Co.	14 Nov. 1942
Pirpolitis	M 76	Redfern Construction Co.	31 Aug. 1942
Polemistis	M 74	Redfern Construction Co.	27 Jan. 1943



PIRPOLITIS 1962, *Captain Aldo Fraccaroli*

Notes
Formerly ocean minesweepers of the " Algerine " class in the Royal Navy. Acquired from the Executive Committee of Surplus Allied Material. Officially classed as corvettes. Launch dates below. Armament of *Mahitis* was removed when she became a training ship. *Armatolos*, *Mahitis* and *Navmachos* are used for auxiliary purposes.

MINELAYERS



AMVRAKIA 1959, *Royal Hellenic Navy, Official*

2 Ex-U.S. LSM Type

AKTION (ex-*LSM* 301) **AMVRAKIA** (ex-*LSM* 303)

Displacement:	720 tons *standard* (1,100 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 7½ (8½ *max.*) feet
Guns:	8—40 mm. d.p. (4 twin mounts), 6—20 mm. AA. (single)
Mines:	Capacity 100 to 130
Machinery:	2 diesels. 2 shafts. B.H.P.: 3,600=12·5 kts.
Radius:	3,000 miles at 12 kts.
Complement:	65

Notes

Former United States Landing Ships Medium. Both built at Charleston Naval Shipyard. *Aktion* was launched on 1 Jan. 1945 and *Amvrakia* on 14 Nov. 1944. Converted in the U.S.A. into all purpose seagoing minelayers for the Royal Hellenic Navy under the terms of the Mutual Defense Assistance Program. Have undergone extensive rebuilding from the deck up. Twin rudders. The Greek flag was hoisted on 1 Dec. 1953. Pennant Nos. N 04 and N 05, respectively.

PATROL VESSELS (*Gunboats*)



ANTIPLOIARKHOS LASKOS 1955, *R.H.N., Official*

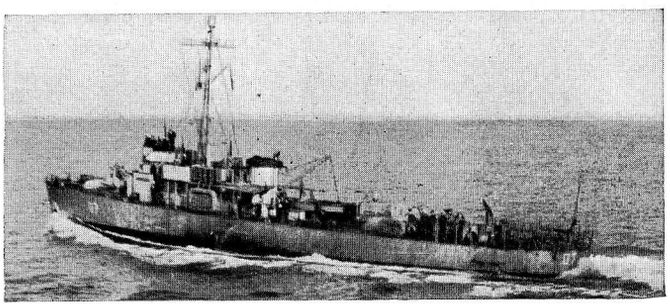
6 Ex-U.S. PGM Type

ANTIPLOIARKHOS LASKOS (ex-*PGM* 16, ex-*PC* 1148)
ANTIPLOIARKHOS PEZOPOULOS (ex-*PGM* 21, ex-*PC* 1552)
PLOIARKHOS MELETOPOULOS (ex-*PGM* 22, ex-*PC* 1553)
PLOTARKHIS ARSLANOGLOU (ex-*PGM* 25, ex-*PC* 1556)
PLOTARKHIS BLESSAS (ex-*PGM* 28, ex-*PC* 1559)
PLOTARKHIS CHANTZIKONSTANDIS (ex-*PGM* 29, ex-*PC* 1565)

Displacement:	335 tons *standard* (439 tons *full load*)
Dimensions:	170 (*w.l.*), 173⅜ (*o.a.*) × 23 × 7½ (*mean*, 10¾ (*max.*) feet
Guns:	1—3 inch, 2—40 mm. AA., 6—20 mm. AA.
A/S weapons:	Side launching torpedo racks, depth charges
Machinery:	2 sets G.M. 2 stroke diesels. 2 shafts. B.H.P.: 3,600=19 kts.
Oil fuel:	60 tons

Notes

All launched in 1943-44. Presented from the U.S. Navy in Aug. 1947. Rated as gunboats. Pennant Nos. P 53, P 70, P 57, P 14, P 61 and P 96 respectively. *Plotarkhis Blessas* is not operational.



VASSILEFS GEORGHIOS II 1952, *Royal Hellenic Navy, Official*

1 Ex-U.S. PC Type

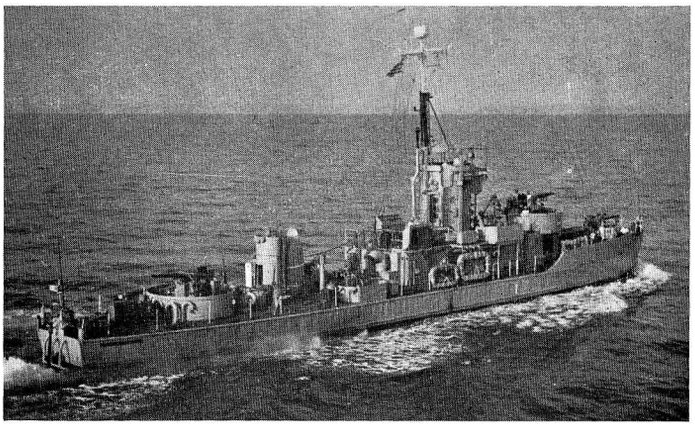
VASSILEFS GEORGHIOS II (ex-*PC* 622)

Displacement:	335 tons *standard* (439 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 7½ feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm.
A/S weapons:	Hedgehog; 4 D.C.T.
Machinery:	2 sets G.M. 2-stroke diesels. 2 shafts. B.H.P.: 3,600=19 kts.
Oil fuel:	60 tons
Complement:	65

Notes

Built by Nashville Bridge Co. Launched in 1942. Transferred from the U.S. Navy under the Lend-Lease Act in June 1944. Rated as a gunboat. Pennant No. P 17.

Patrol Vessels (*Gunboats*)—*continued*



PLOTARKHIS MARIDAKIS 1959, *Royal Hellenic Navy, Official*

2 Ex-U.S. LSSL Type

PLOTARKHIS MARIDAKIS (ex-U.S.S. *LSSL* 65) 14 Nov. 1944
PLOTARKHIS VLACHAVAS (ex-U.S.S. *LSSL* 35) 17 Sep. 1944

Displacement:	257 tons *standard* (395 tons *full load*)
Dimensions:	157 × 23¾ × 5⅜ feet
Guns:	1—3 inch, 4—40 mm. AA. (2 twins), 4—20 mm. AA., 6—0·5 inch AA. M.G.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,600=14·4 kts.
Oil fuel:	87 tons

Notes

Former American Landing Ships Support, Large. Built by Albina Engine & Machinery Works Inc., Portland, Oreg., and Commercial Iron Works, Portland, Oreg., respectively. Launch dates above. *Plotarkhis Vlachavas* was transferred from the United States on 12 Aug. 1957 under the Military Aid Program and *Plotarkhis Maridakis* in June 1958. Employed as patrol vessels and gunboats.

COASTAL MINESWEEPERS

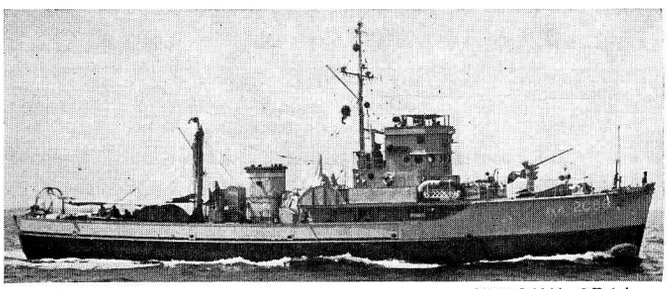
2 New Construction

MSC 298 **MSC 299**

Displacement:	320 tons *light* (370 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 28 × 8½ feet
Guns:	2—20 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 880=13 kts.
Oil fuel:	25 tons
Radius:	2,500 miles at 10 kts.
Complement:	39

Notes

These two new coastal minesweepers are being built in the U.S.A. under the Mutual Defense Assistance Programme for Greece, being scheduled for completion in 1963-64. They are largely of wooden construction, being built throughout of materials with the lowest possible magnetic attraction to obtain the greatest possible safety factor when sweeping for magnetic mines.



PARALOS 1955, *R.H.N., Official*

14 BYMS Type

AFROESSA (ex-*BYMS* 2185)
ITHAKI (ex-*BYMS* 2240)
KALYMNOS (ex-*BYMS* 2033)
KARTERIA (ex-*BYMS* 2065)
KEFALINIA (ex-*BYMS* 2171)
KERKYRA (ex-*BYMS* 2172)
LEFKAS (ex-*BYMS* 2068)
LEROS (ex-*BYMS* 2186)
PARALOS (ex-*BYMS* 2066)
PATMOS (ex-*BYMS* 2229)
PAXI (ex-*BYMS* 2056)
SALAMINIA (ex-*BYMS* 2067)
SIMI (ex-*BYMS* 2190)
ZAKYNTHOS (ex-*BYMS* 209)

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136 × 24½ × 8 feet
Guns:	1—3 inch, 2—20 mm. AA., 4 M.G., 2 D.C.T.
Machinery:	Diesel. B.H.P.: 1,000=12 kts.
Complement:	33

Notes

Of wooden hull construction. All the names are conventional and are not mentioned in signals or correspondence. Known by numbers. *Karteria* was launched on 21 Dec. 1942. *Vegas* (ex-*BYMS* 2078), has been adapted as a hydrographic ship, see below.

SURVEY SHIPS

2 BYMS Type Ex-Coastal Minesweepers

ARIADNI (ex-*BYMS* 2058) **VEGAS** (ex-BYMS 2078)

Displacement:	252 tons *standard* (325 tons *full load*)
Dimensions:	136 × 24½ × 6 feet
Machinery:	Diesel. B.H.P.: 1,000=12 kts.

Notes

Former coastal minesweepers of the wooden hulled BYMS type, see sister ships above. The survey ship *Alkyoni* was discarded in 1961, it is officially stated.

COASTAL PATROL VESSELS



ANDROMEDA 1962, *Royal Hellenic Navy, Official*

6 BYMS Type Ex-Coastal Minesweepers

ANDROMEDA (ex-*BYMS* 2261)
CLIO (ex-*BYMS* 2152)
LAMBADIAS (ex-*BYMS* 2182)
PIGASSOS (ex-*BYMS* 2221)
PROKYON (ex-*BYMS* 2076)
THALIA (ex-*BYMS* 2252)

Displacement:	251 tons *standard* (338 tons *full load*)
Dimensions:	136 × 24½ × 8½ (*max.*) feet
Guns:	1—20 mm. Oerlikon AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,000 = 15 kts.
Oil fuel:	16 tons
Radius:	5,500 miles at economical speed
Complement:	30

Notes
Former United States coastal minesweepers of the BYMS type acquired in 1959. Of wooden hull construction.
Recent Disposal
Sister ship *Aura* (ex-*BYMS* 2054) was officially deleted from the list in 1962.

MOTOR LAUNCHES



ELEPHTHERON 1953, *A. & J. Pavia*

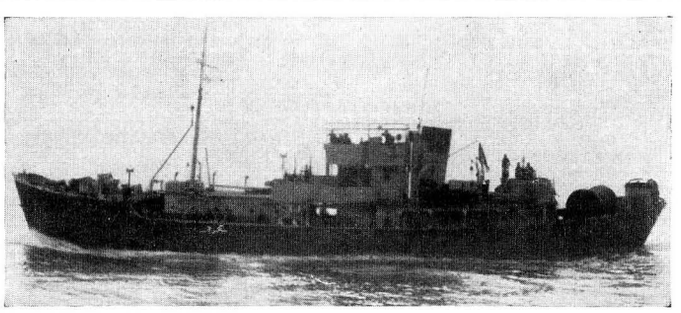
2 Fairmile B Type

KALAMBAKA (ex-*ML* 483)
NISSIROS (ex-*ML* 864)

Displacement:	75 tons *standard* (130 tons *full load*)
Dimensions:	112 × 18 × 9 feet
Guns:	1—40 mm. AA., 2—20 mm. AA., 4 M.G.
Machinery:	2 Hall Scott motors. B.H.P.: 1,200 = 18 kts.

Notes
Fairmile " B " type. Both on loan from Great Britain. *Nissiros* is used as the Royal Barge.
Recent Disposals
The sister launches *Doxaton* (ex-*ML* 307), *Drama* (ex-*ML* 341), *Elephtheron* (ex-*Kalini*, ex-*ML* 478), *Chalkis* (ex-*ML* 578), *Kapernissi* (ex-*ML* 867) and *Tsataltza* (ex-*ML* 861) were returned to Great Britain, it was officially stated in 1960, and are being scrapped or sold.
The eight seaward defence boats of the HDML type, *Bizani* (ex-*HDML* 1221), *Davlia* (ex-*HDML* 1032), *Distration* (ex-*HDML* 1242), *Farsala* (ex-*HDML* 1252), *Karia* (ex-*HDML* 1307), *Kastraki* (ex-*HDML* 1375), *Klissowra* (ex-*HDML* 1149) and *Portaria* (ex-*HDML* 1051), all on loan from Great Britain, were officially deleted from the list in 1962.

MINESWEEPING DEPOT SHIP



HERMES 1953, *R.H.N., Official*

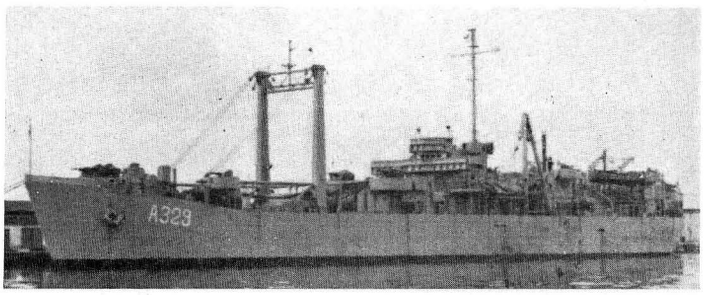
1 British Trawler Type

HERMES (ex-*Product*, ex-*Port Jackson*)

Displacement:	550 tons *standard* (650 tons *full load*)
Dimensions:	133 × 27¾ × 11 feet
Machinery:	Diesel, 4-stroke. B.H.P.: 560 = 11 kts.

Notes
Depot ship for minesweepers. Launched in 1941. On loan from Great Britain. Pennant No. A 324.

REPAIR SHIPS



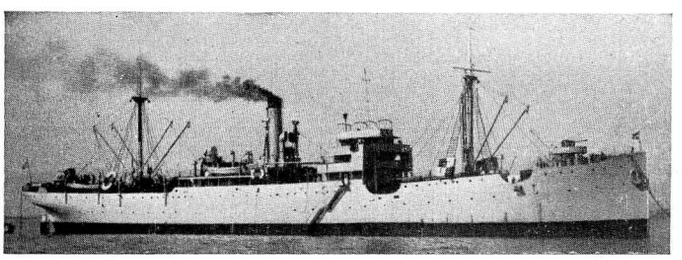
SAKIPIS 1962, *Royal Hellenic Navy, Official*

1 Ex-U.S. ARB Type

SAKIPIS (ex-*K.N.M. Ellida*, ex-*U.S.S. ARB* 13, ex-*U.S.S. LST* 50)

Displacement:	3,800 tons *standard* (5,000 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 *approx.* (*max.*) feet
Guns:	12—40 mm. AA., 12—20 mm. AA.
Machinery:	G.M. diesels. 2 shafts. B.H.P.: 1,800 = 10 kts. sea speed
Complement:	200

Notes
Former United States tank landing ship. Built by Dravo Corporation, Pittsburgh. Laid down on 29 Aug. 1943, launched on 16 Oct. 1943, completed on 27 Nov. 1943, and first commissioned in 1943. Converted to a battle damage repair ship of the ARB I class in 1952 by Puget Sound Bridge & Dredger Co. Taken over by the Royal Norwegian Navy at Seattle on 14 Nov. 1952 under the Mutual Defense Assistance Program to serve as a battle damage repair ship for Norwegian naval surface vessels and craft. Returned to the U.S. Navy on 1 July 1960. Acquired by Greece from the U.S.A. on 16 Sep. 1960, having been transferred to the Royal Hellenic Navy at Bergen, Norway, on that date. Pennant No. A 329.



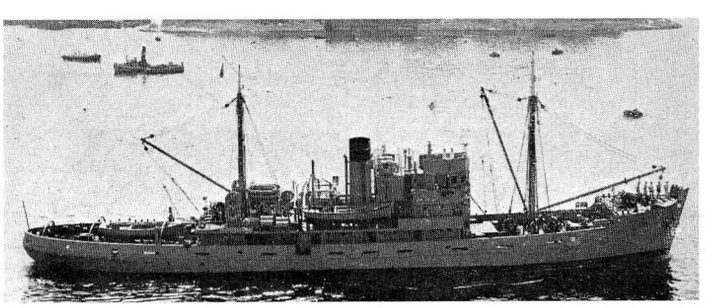
HEPHAISTOS 1954, *R.H.N., Official*

HEPHAISTOS (ex-*Khios*, ex-*Marie Reppel*)

Displacement:	3,800 tons *standard* (4,550 tons *full load*)
Measurement:	9,300 tons *gross*
Dimensions:	360½ × 50 × 23 feet
Guns:	2—3 inch AA., 4—20 mm.
Machinery:	Triple expansion. I.H.P.: 1,800 = 11.5 kts.

Notes
Former German cargo ship. Built at Rostock. Launched in 1920. Converted into a Repair Ship in 1925. *Hephaistos* was the patron god of the metal workers. Pennant No. A 326.
The tender *Rodos* was officially deleted in 1962 (not on Navy List).

OCEAN SALVAGE VESSEL



SOTIR *A. & J. Pavia*

1 British "Salv" Type

SOTIR (ex-*Salventure*)

Displacement:	1,440 tons *standard* (1,700 tons *full load*)
Measurement:	1,112 tons *gross*
Dimensions:	216 (*o.a.*) × 37¾ × 13 (*max.*) feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,500 = 12 kts.
Oil fuel:	310 tons
Complement:	60

Notes
Formerly Royal Fleet Auxiliary ocean salvage vessel. On loan from Great Britain. Pennant No. A 384.

AIR-SEA RESCUE BOATS

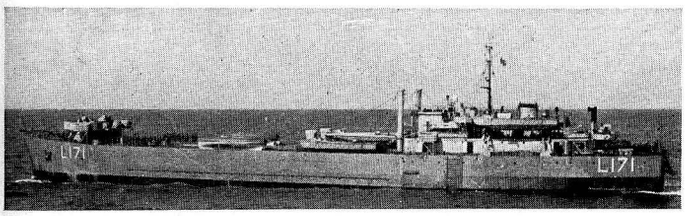
5 Ex-U.S. AVR Type

ADAMIDIS A/N 705 (ex-*AVR* 705)
IOS A/N 1084 (ex-*AVR* 1084)
IRA A/N 709 (ex-*AVR* 709)
KARNAVIAS A/N 707 (ex-*AVR* 707)
SAKELLARIOU A/N 708 (ex-*AVR* 708)

Displacement:	24 tons
Dimensions:	63 × 15 × 3½ feet
Machinery:	2 Hall Scott motors. B.H.P.: 1,260 = 33 kts.

Notes
These boats may be discarded in the near future it is officially stated.

TANK LANDING SHIPS



PINIOS 1959, *Royal Hellenic Navy, Official*

3 British LST (3) Type

ACHELOOS L 116 (ex-*LST* 3503)
ALIAKMON L 104 (ex-*LST* 3002)
PINIOS L 171 (ex-*LST* 3506)

Displacement:	2,256 tons *standard* (4,980 tons *full load*)
Dimensions:	330 (*w.l.*), 347 (*o.a.*) × 55 × 14½ (*max.*) feet
Guns:	10—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 13 kts.
Oil fuel:	1,950 tons

Notes
Original LST (3) type landing ships. All launched in 1943. On loan from Great Britain. *Alfios* (ex-*LST* 3020), *Axios* (ex-*LST* 3007) and *Strymon* (ex-*LST* 3502) have been returned to the Royal Navy, to be refitted at Bailey's, Malta and taken over by the Ministry of Transport.



IKARIA 1951, *K.H.N. Official*

3 Ex-U.S LST Type

IKARIA L 154 (ex-U.S.S. *Potter County*, *LST* 1086)
RODOS L 157 (ex-U.S.S. *Bowman County*, *LST* 391)
LESBOS L 172 (ex-U.S.S. *Boone County*, *LST* 389)

Displacement:	1,653 tons *standard*, 2,366 *beaching*, 3,960 *trials* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	8—40 mm. AA., 6—20 mm. AA. (*Rodos:* 10—40 mm. AA.)
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,700 = 11·6 kts.
Cargo capacity:	2,100 tons
Complement:	119 (accommodation for 266)

Notes
Former United States tank landing ships. All transferred to the Royal Hellenic Navy. on 9 Aug. 1960

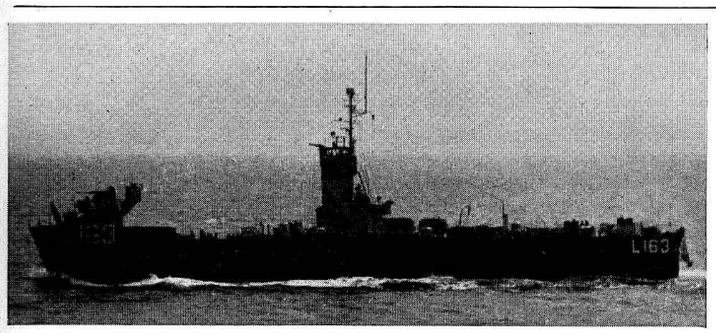
3 U.S. LST (2) Type

CHIOS L 195 (ex-*LST* 35) **LIMNOS L 158** (ex-*LST* 36) **SAMOS L 179** (ex-*LST* 33)

Displacement:	1,625 tons, *standard* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	1—3 inch, 6—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700 = 11 kts.
Oil fuel:	595 tons
Complement:	119

Notes
All launched in 1943. Acquired from the U.S. Navy in 1943, on Lend-Lease terms. *Lesvos* ex-*LST* 322) was returned to the British Government in 1953. A photograph of *Chios* appears in the 1952-53 to 1960-61 editions.

MEDIUM LANDING SHIPS



IPOPLIARKHOS CRYSTALIDIS 1961, *Royal Hellenic Navy, Official*

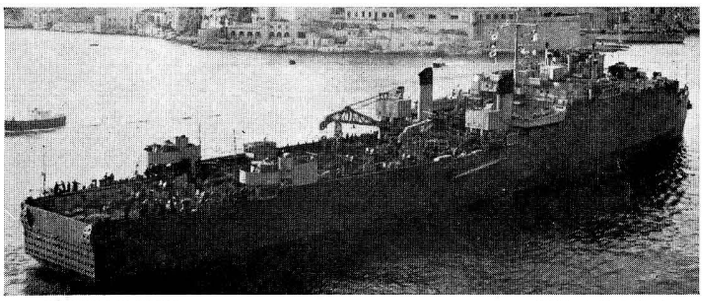
6 Ex-U.S. LSM Type

IPOPLIARKHOS CRYSTALIDIS L 165 (ex-U.S.S. *LSM* 541)
IPOPLIARKHOS DANIOLOS L 163 (ex-U.S.S. *LSM* 227)
IPOPLIARKHOS GRIGOROPOULOS L 161 (ex-U.S.S. *LSM* 45)
IPOPLIARKHOS MERLIN L 166 (ex-U.S.S. *LSM* 557)
IPOPLIARKHOS ROUSSEN L 164 (ex-U.S.S. *LSM* 399)
IPOPLIARKHOS TOURNAS L 162 (ex-U.S.S. *LSM* 102)

Displacement:	743 tons (*beaching*), (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8½ feet
Guns:	2—40 mm. AA., 8—20 mm. AA.
Machinery:	Diesel direct drive. 2 shafts. B.H.P.: 3,600 = 13 kts.

Notes
Former United States Medium Landing Ships of the LSM type. *LSM* 541 and *LSM* 557 were handed over to the Royal Hellenic Navy at Salamis on 30 Oct. 1958. *LSM* 45, *LSM* 102, *LSM* 227 and *LSM* 399 were transferred to Greece at Portsmouth, Virginia on 3 Nov. 1958. All were renamed after naval heroes killed during the Second World War.

DOCK LANDING SHIP



NAFKRATOUSSA 1960, *A. & J. Pavia*

1 Ex-U.S. LSD Type

NAFKRATOUSSA (ex-*Hyperion*, ex-*LSD* 9)

Displacement:	4,790 tons *standard* (9,375 tons *full load*)
Dimensions:	454 (*w.l.*), 457¾ (*o.a.*) × 72½ × 18 (*max.*) feet
Guns:	1—3 inch, 8—40 mm. AA.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 7,000 = 15 kts.

Notes
Launched by Newport News Shipbuilding & Dry Dock Co. on 21 May 1943. Taken over by Royal Hellenic Navy in 1953. Headquarters ship of Captain Landing Forces.

TANK LANDING CRAFT

8 LCT Type

AMORGOS (ex-*LCT* 1301)
ANAFI (ex-*LCT* 1293)
KANDANOS (ex-*LCT* 587)
KYTHIRA (ex-*LCT* 1198)
MILOS (ex-*LCT* 1300)
SERIFOS (ex-*LCT* 1227)
SOFADES (ex-*LCT* 594)
THIRA (ex-*LCT* 1297)

Displacement:	146 tons *standard* (320 to 400 tons *full load*
Dimensions:	120 × 33 × 3¾ feet
Machinery:	Diesel. 2 shafts. S.H.P.: 675 = 8 kts.
Guns:	2—20 mm. AA.
Complement:	12

Notes
U.S. LCT (6) type. All launched in 1943-44. On loan from Great Britain, except *Serifos*.

UTILITY LANDING CRAFT

8 Ex-U.S. LCU Type

KEA (ex-U.S.S. *LCU*)
KITNOS (ex-U.S.S. *LCU*)
SIFNOS (ex-U.S.S. *LCU*)
SCIATHOS (ex-U.S.S. *LCU* 853)
SCOPELOS (ex-U.S.S. *LCU* 827)

Displacement:	143 tons *standard* (309 tons *full load*)
Dimensions:	105 (*w.l.*), 119 (*o.a.*) × 32⅝ × 5 (*max.*) feee
Guns:	2—20 mm. Oerlikon AA.
Machinery:	Diesel. 3 shafts. B.H.P.: 440 = 8 kts.
Complement:	13

Notes
Former United States Utility Landing Craft of the *LCU* (ex-*LCT* (6)) type. *Sciathos* and *Scopelos* were acquired in 1959. *Kea*, *Kitnos* and *Sifnos* were transferred from the United States in 1961, and three more in 1962.

MINOR LANDING CRAFT

12 LCMs **14 LCVPs**

Notes
The above LCMs and LCVPs were transferred from the United States under the Military, Aid Program.

Recent Disposals
The nine Assault Landing Craft, LCA 1123, 1352, 1525, 1618, 1725, 1726, 1775, 1818 and 1886 on loan from Great Britain from 1950 to 1959, have been returned or otherwise disposed of

TRANSPORTS

ANCHIALOS (ex-*FT* 28, ex-*APC* 65)
DISTOMON (ex-*FT* 15, ex-*APC* 66)
ELASSON ex-*FT* 12, ex-*APC* 67
KALAVRITA (ex-*FT* 13, ex-*APC* 71)
LEHOVON (ex-*FT* 24, ex-*APC* 73)
VELESTINON (ex-*FT* 11, ex-*APC* 75)

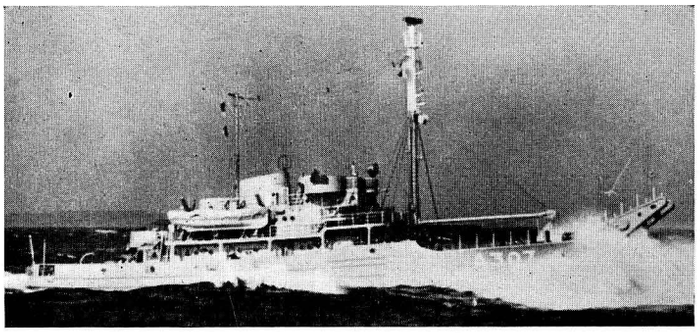
Displacement:	165 tons *standard* (229 tons *full load*)
Dimensions:	103 × 21½ × 8½ feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. B.H.P.: 500 = 10 kts.

Notes
Former American small coastal transports. All built in 1943. Photograph of *Anchialos* in the 1956-57 and 1957-58 editions.

WATER CARRIERS

ILIKI Capacity: 120 tons
KASTORIA Capacity: 520 tons
VOLVI Capacity 350 tons
TRIHONIS Capacity: 300 tons
KALIRROE
KASTALIA Capacity: All 120 tons
STYMPHALIA
VLIK

NET TENDER



THETIS — 1961, *Royal Hellenic Navy, Official*

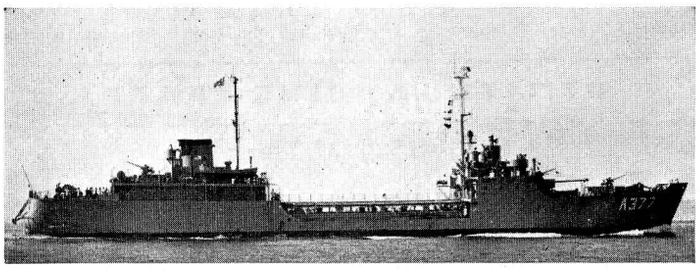
1 U.S. AN Type

THETIS

Displacement:	680 tons *standard* (805 tons *full load*)
Dimensions:	146 (*w.l.*), 165½ (*o.a.*) × 33½ × 10½ (*mean*), 11¾ (*max.*) feet
Guns:	1—40 mm. AA., 4—20mm. AA
Machinery:	MAN diesel motors. 1 shaft. B.H.P.: 1,400 = 12 kts.
Complement:	48

Notes
Built by Kröger, Rendsburg, as a U.S. offshore order. Launched in 1959. It was officially stated in 1960 that this ship had been taken over by the Royal Hellenic Navy. Transferred on 9 Apr. 1960. Ex-U.S.S. AN 103. Pennant No. A 307.

OILERS



ARETHOUSA — 1960, *Royal Hellenic Navy, Official*

1 Ex-U.S. AOG Type

ARETHOUSA (ex-U.S.S. *Natchaug*, AOG 54)

Displacement:	1,850 tons *light* (4,335 tons *full load*)
Measurement:	2,575 *deadweight* (cargo capacity 2,040 tons)
Dimensions:	292 (*w.l.*), 310¾ (*o.a.*) × 48½ × 15⅔ (*max.*) feet
Guns:	4—3 inch d.p., 50 cal.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 3,300 = 14 kts.
Complement:	43 (6 officers, 37 men)

Notes
Former American petrol carrier. Built by Cargill Inc., Savage, Minn. Laid down on 15 Aug. 1944. Launched on 6 Dec. 1944. Transferred from the U.S.A. to Greece under the Mutual Defense Assistance Program at Pearl Harbour, Hawaii, in July 1959. Pennant No. A 377.

Recent Disposal
The old oiler *Argo* (ex-*Solna*, ex-*Granlund*, ex-*Corbis*, ex-*War Ranee*), originally of the British " War " class, was officially deleted from the list in 1962.

ZEUS (ex-*YOG* 98) — *Pennant No.:* A 372

Launched:	1944
Capacity:	900 tons
Dimensions:	165 × 35 × 10 feet

SIRIOS (ex-*Poseidon*, ex-*Empire Faun*)

Capacity:	850 tons

Notes
On loan from Great Britain. This ship was renamed *Sirios* when the name *Poseidon* was given to the submarine *Lapon* acquired from the U.S.A. in 1958 (see earlier page). Pennant No. A 345.

VIVIIS

Capacity:	687 tons

Notes
Originally a water carrier but now employed as an oiler.

PROMETHEUS

Launched:	1939
Capacity:	520 tons

KRONOS (ex-*Islay*, ex-*Dresden*)

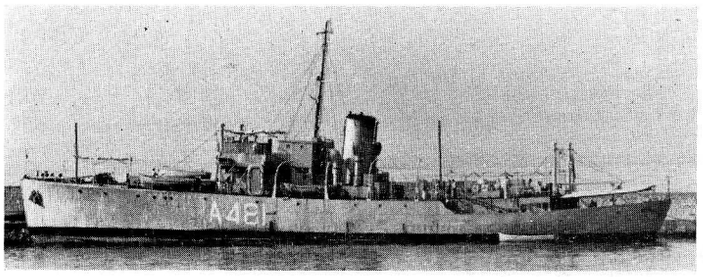
Displacement:	311 tons
Capacity:	110 tons

ORION (ex-U.S. tanker Y 126)

Capacity:	700 tons

Notes
Khalki and *Xanthi* were officially stricken from the list in 1958.

LIGHTHOUSE TENDERS



ST. LYKOUDIS — 1962, *Captain Aldo Fraccaroli*

1 Ex-British " Flower " Class Corvette

ST. LYKOUDIS (ex-*Chania*)

Displacement:	1,020 tons *standard* (1,280 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 33 × 14½ feet
Machinery:	Triple expansion. I.H.P.: 2,750 = 14 kts.
Boilers:	2 S.E.
Oil fuel:	230 tons

Notes
Former corvette of the British " Flower " type. Launched in 1960. Pennant No. A 481

SKYROS — Pennant No.: A 485

SERRAI (ex-*Anna Raeder*) — Displacement: 725 tons; Pennant No.: A 487

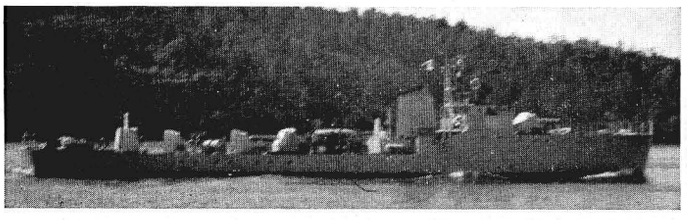
FLEET TUGS

ACCHILEUS (ex-*Confident*)	**CYCLOPS** (ex-*F* 10)	**MINOTAVROS** (ex-*Theseus*, ex-*ST* 539)
AIAS	**GIGAS**	**PERSEUS** (ex-*ST* 772)
ANTAIOS (ex-*Busy*)	**HERAKLIS**	**SAMSON** (ex-*F* 16)
ATLAS (ex-*F* 5)	**KENTRAVROS**	**TITAN**

GUATEMALA

On 5 Jan. 1959 Guatemala announced that it was establishing a navy, with a primary duty to rout poaching fishing boats and smugglers. Three warships were being ordered ; and a small frigate was to be obtained from a Scandinavian country, plus small coast guard craft from the United States.

PATROL VESSEL



JOSÉ FRANCISCO BURRUNDIA — 1959, *Official*

JOSÉ FRANCISCO BARRUNDIA (ex-*Snapphanen*)

Displacement:	310 tons *standard* (370 tons *full load*)
Dimensions:	170⅜ × 19⅔ × 9½ feet
Guns:	2—3 inch; 2—25 mm. AA.
Machinery:	De Laval geared turbines. 2 shafts. S.H.P.: 3,600 = 23 kts.
Boilers:	2 Vancon-Normand
Oil fuel:	50 tons
Complement:	40

Notes
Built by Karlskrona Dockyard. Launched on 2 Nov. 1933. Formerly a minesweeper which served in the Royal Swedish Navy until 1959 when she was transferred to the new Guatemalan Navy as the first warship. Now has lower mast (lattice), bridge and funnel (squat, thicker and streamlined) and shields on her 12-pounder guns. One of the 25 mm. Bofors has been moved aft. She is painted a very light grey, nearly white.

GUINEA

It is reported that Guinea is establishing a small naval force of coastal and river craft.

HAITI

COAST GUARD PATROL VESSELS

TONAWANDA (ex-U.S. *AN* 89)

Displacement:	650 tons *standard* (785 tons *full load*)
Dimensions:	168½ × 33⅜ × 10⅜ feet
Machinery:	Busch-Sulzer diesel-electric. S.H.P.: 1,500 = 12 kts.

Notes
Former United States netlayer of the " Cohoes " class. Built by Leatham D. Smith S.B. Co. Launched on 14 Nov. 1944. Loaned to Haiti in 1960.

LA CRETE A PIERROT (ex-U.S.C.G. 95315) **VERTIERES**

Displacement:	100 tons
Dimensions:	95 × 19 × 5 feet
Guns:	3—20 mm. AA.
Machinery:	4 diesels. 2 shafts. B.H.P.: 2,200 = 21 kts.
Radius:	1,500 miles
Complement:	15

Notes
Former United States Coast Guard cutters, steel type. Built at U.S. Coast Guard Yard, Curtiss Bay, Maryland. *La Crete a Pierrot* was acquired on 26 Feb. 1956. *Vertieres* was transferred to Haiti at Norfolk, Virginia, in Oct. 1956 and commissioned in Dec. 1956. Pennant Nos. GC 8 and GC 9, respectively.



AMIRAL KILLICK *Added 1957, U.S.C.G. Official*

AMIRAL KILLICK (ex-U.S.N. *Black Rock*, *WAGL* 367)

Displacement:	160 tons
Dimensions:	Length 114 feet

Notes
Former small buoy tender purchased from the United States Coast Guard in 1955, commissioned in Jan. 1956. Pennant No. GC 7

TOUSSAINT L'OUVERTURE (ex-*SC* 1064) **16 AOUT 1946** (ex-*SC* 453

Displacement:	110 tons *standard* (138 tons *full load*)
Dimensions:	110½ × 18¾ × 6½ feet
Guns:	2—40 mm., 2—20 mm.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,000 = 15 kts.

Notes
Pennant Nos. GC 3 and GC 2, respectively. Submarine chasers of the SC type acquired during 1947 from the U.S. Navy. Launched in 1941-43. Laid up in reserve in poor condition and will probably be sold or scrapped. *Amiral Killick*, GC4, was discarded in 1954.

Nos. 1, 2, 3, 4, 5, 6

Displacement:	45 tons
Dimensions:	82 × 16 × 4½ feet
Guns:	1—20 mm.
Machinery:	Speed = 20·5 kts.

Notes
Patrol craft of picket-boat type acquired from the U.S. Coast Guard. Launched in 1942

SAVANNAH

Displacement:	47 tons
Dimensions:	83 × 16 × 4½ feet
Machinery:	Diesels. 2 shafts. B.H.P.: 200 = 9 kts.
Complement:	12

Notes
Ux-U.S.C.G. cutter 56200, built in the U.S.A. in 1944 and acquired in 1944.

ARTIBONTE (ex-U.S. *LCT*)

Displacement:	134 tons *standard* (285 tons *full load*)
Dimensions:	120½ (*o.a.*) × 32 × 4½ feet
Machinery:	3 diesels. B.H.P.: 675 = 8 kts.
Complement:	12

Notes
Former United States tank landing craft. Salvaged by Haitian Coast Guard after grounding and converted. Pennant No. GC 5. Laid up in reserve having been damaged by grounding in Mar. 1956. *Vertieres* GC 6 (ex-U.S.S. *APC* 92) was lost at sea.

SANS SOUCI (ex-*Captain James Taylor*)

Displacement:	161 tons
Machinery:	Diesels. 2 shafts. B.H.P.: 300 = 10 kts.

Notes
Employed, when required, as the Presidential Yacht.

HONDURAS

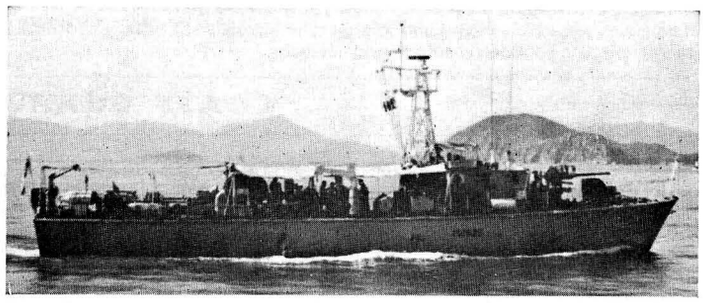
Notes
A frigate has been reported adapted for mercantile use, but Honduras has no navy or armed vessels worthy of inclusion in *Fighting Ships*.

Mercantile Marine

Lloyd's Register of Shipping: 58 vessels of 119,772 tons *gross*

HONG KONG

INSHORE MINESWEEPERS



ETCHINGHAM 1961, *Hong Kong R.N.R., Official*

2 " Ham " Class

CARDINGHAM M 2615 **ETCHINGHAM** M 2625

Displacement:	120 tons *standard* (159 tons *full load*)
Dimensions:	100 (*pp.*), 106⅞ (*o.a.*) × 21¼ × 5½ feet
Guns:	1—20 mm. Oerlikon AA.
Machinery:	2 Davey Paxma diesels. B.H.P.: 1,000 = 14 kts. (9 kts. sweeping)
Oil fuel:	15 tons
Complement:	15

Notes
Transferred from the Royal Navy to the Hong Kong Royal Naval Reserve in 1959. For full particulars see under " Ham " class in United Kingdom section, page 283.

Seaward Defence Motor Launch Notes
SDML 1323, SDML 1326, SDML 1328 and SDML 1329 were returned to the Royal Australian Navy in 1958 from Hong Kong where they had been lent to the Royal Navy, and were transferred to the Philippine Navy in 1959.
SDML 3503, SDML 3510, SDML 3511, SDML 3512, SDML 3513 and SDML 3514 were sold or otherwise disposed of.

HUNGARY

PATROL LAUNCHES

Displacement: 100 tons

Notes
Ten of these patrol launches are reported to be in commission.

RIVER PATROL VESSEL

BAYA (ex-*Barsch*)

Displacement:	140 tons
Dimensions:	149¼ × 19¼ × 3¼
Guns:	2—70 mm., 2 M.G.
Machinery:	A.E.G. turbines. 2 shafts. S.H.P.: 1,200 = 15 kts.
Boilers:	2 Yarrow
Oil fuel:	18 tons
Complement:	44

Notes
Built at the Ganz-Danubius Yard, Budapest, and launched in 1918. Her screws work in tunnels.

DEPOT SHIP

CSOBÁNC

Displacement:	305 tons
Dimensions:	132 × 18 × 4½ feet
Machinery:	2 Diesels. Tunnel screws. B.H.P.: 180 = 8 kts.
Oil fuel:	8 tons
Complement:	18

Notes
Built at the Ganz-Danubius Yard, Budapest, and launched in 1928.

MINESWEEPERS

Displacement: 70 tons

Notes
Two of these small minesweepers are reported to be in commission or reserve.

RIVER MINESWEEPERS

Displacement:	12 tons
Guns:	2 M.G.
Mines:	8
Armour:	8 mm.
Machinery:	2 diesels. B.H.P.: 75

Notes
Ten river minesweepers of this armoured type (photograph in the 1957-58 to 1960-61 editions) have been reported. They can sweep or lay mines.

TRAINING SHIP

BADACSONY

Displacement:	225 tons
Machinery:	H.P.: 400 = 10·5 kts.

ICELAND

Administration

Minister of Justice: Mr. Bjarni Benediktsson.
Director, Coast Guard Service: Captain Petur Sigurdsson.
The Coast Guard Service (Landhelgisgaezlan) deals with fishery protection, salvage, hydrographic research and surveying.

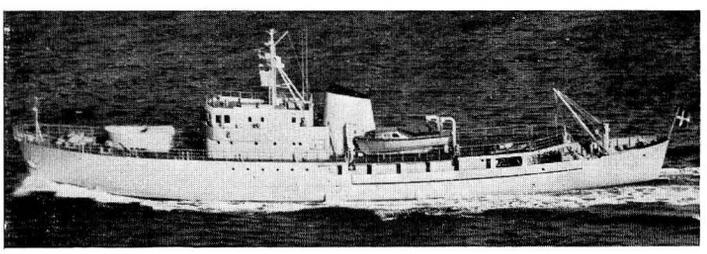
Coast Guard Patrol Vessels

Prefix of patrol vessels: v/s. Colour: dark grey.

Mercantile Marine

Lloyd's Register of Shipping: 177 vessels of 108,646 tons *gross*

COAST GUARD PATROL VESSELS



ODINN — 1960, *Islandic Coast Guard Service, Official*

ODINN

Displacement:	1,000 tons (officially revised figure)
Dimensions:	200 (*w.l.*), 207 (*o.a.*) × 31 × 18½ feet
Guns:	1—57 mm.
Machinery:	2 diesel motors. 2 shafts. B.H.P.: 5,000 = 18 kts.
Complement:	30

Notes
A new coast guard vessel built at Aalborg Vaerft A/S, Denmark. Laid down in Jan. 1959. Launched in Sep. 1959. Completed in Jan. 1960.

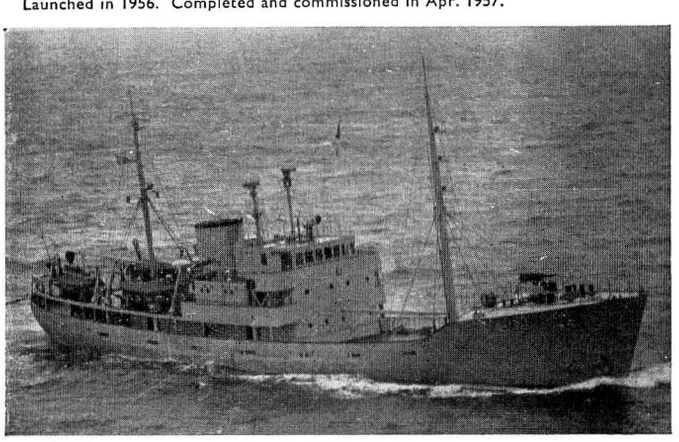


ALBERT — 1958, *Official*

ALBERT

Measurement:	200 tons *gross*
Dimensions:	Length: 111½ feet
Guns:	1—47 mm.
Machinery:	1 Nohab diesel motor. B.H.P.: 650 = 12·5 kts.
Complement:	15

Notes
Launched in 1956. Completed and commissioned in Apr. 1957.



THOR — 1957, *Official*

THOR

Displacement:	920 tons
Measurement:	693 tons *gross*
Dimensions:	183½ (*pp.*), 206 (*o.a.*) × 31⅛ × 13 feet
Guns:	1—57 mm.
Machinery:	2 Crossley diesel motors. B.H.P.: 3,200 = 17 kts.
Complement:	28

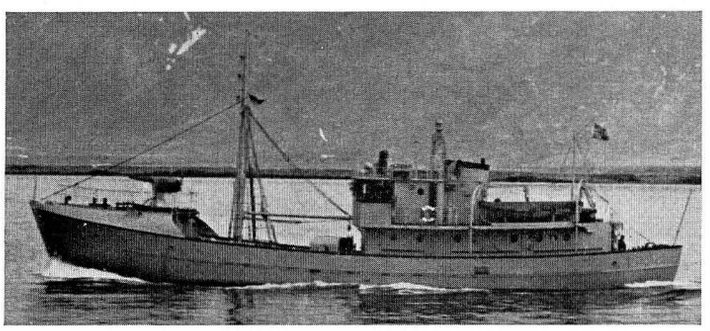
Notes
Built at Aalborg, Denmark. Launched in 1951. Completed and commissioned late 1951. Rated as coastal inspection and salvage vessel.

GAUTUR (ex-*Odinn*)

Measurement:	72 tons gross
Guns:	1—47 mm.
Machinery:	Petters diesel motor. B.H.P.: 425 = 10·5 kts.
Complement:	11

Notes
Built in Iceland. Launched in 1938. Rebuilt in 1954. Also used for surveying. This vessel was re-named *Gautur* when the name *Odinn* was given to the new large patrol vessel built in 1959-60 (see above). Photograph in the 1956-57 and 1957-58 editions.

The fishery protection patrol vessel and lighthouse tender *Hermadur* foundered off south-west Iceland on 17 Feb. 1959.

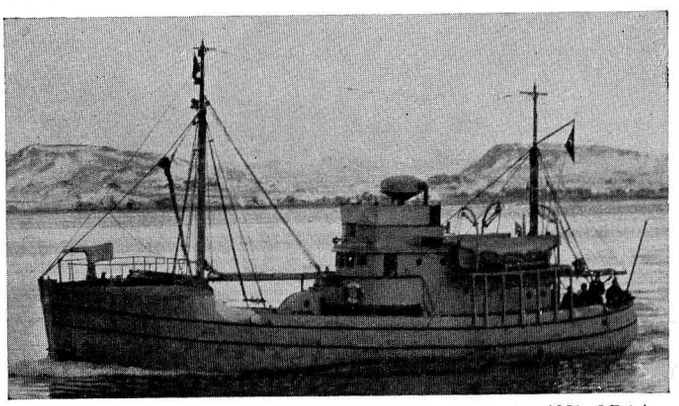


MARÍA JULÍA — *1961 Icelandic·Coast Guard Service, Official*

MARÍA JÚLÍA

Measurement:	138 tons *gross*
Dimensions:	Length: 90¼ feet
Guns:	1—47 mm.
Machinery:	Petters diesel motor. B.H.P.: 470 = 11·5 kts.
Complement:	12

Notes
Built at Frederikssund, Denmark. Launched in 1950. Also used for inshore fishery and hydrographic research.

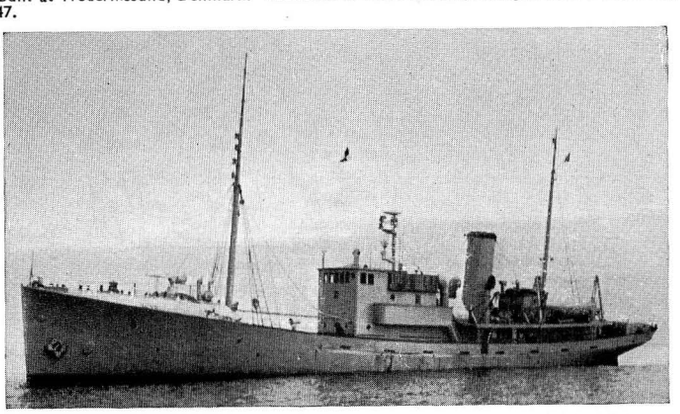


SAEJORG — *1956, Official*

SAEBJORG

Measurement:	98 tons *gross*
Dimensions:	Length: 80⅓ feet
Guns:	1—47 mm.
Machinery:	Atlas Imperial diesel motor. B.H.P.: 320 = 10 kts.
Complement:	11

Notes
Built at Frederikssund, Denmark. Launched in 1937. Rebuilt, enlarged and re-engined in 1947.



AEGIR — 1957, *Official*

AEGIR

Measurement:	507 tons *gross*
Dimensions:	171¼ (*pp.*), 187 (*o.a.*) × 29½ × 14½ feet
Guns:	1—57 mm.
Machinery:	B. & W. diesel engines. B.H.P.: 1,300 = 13·5 kts.
Complement:	25

Notes
Built by Burmeister & Wain, Copenhagen. Launched on 25 Apr. 1929. Rebuilt in 1953. Also used as Research Vessel for offshore and hydrographic research.

TYR

Measurement:	33 tons
Dimensions:	Length, 60 feet
Machinery:	3 Perkins diesel motors. B.H.P.: 390 = 12 kts.
Complement:	6

Notes
Surveying launch. Also used for local fishery inspection. Ex-R.A.F. 60 ft. pinnance. Photograph in the 1957-58 edition.

INDIA

Adminstration

The Chief of the Navy Staff, Indian Navy:
Vice-Admiral B. S. Soman, I.N.

Deputy Chief of the Naval Staff:
Rear-Admiral B. A. Samson, I.N.

Flag Officer Commanding, Indian Fleet:
Rear-Admiral A. K. Chatterji, I.N.

Naval Adviser to the High Commissioner for India in the United Kingdom:
Captain J. D. Mody, I.N.

Personnel

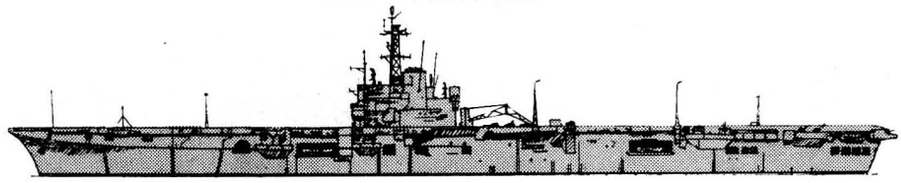
1962: 16,000 (1,450 officers, 14,550 ratings)

Mercantile Marine

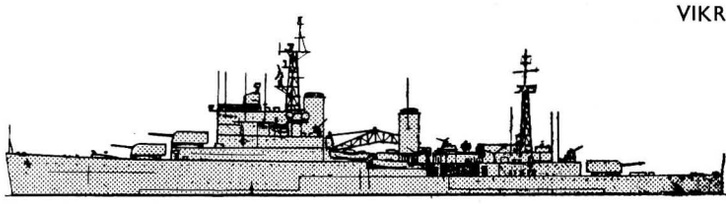
Lloyd's Register of Shipping:
273 vessels of 955,441 tons *gross*

Silhouettes

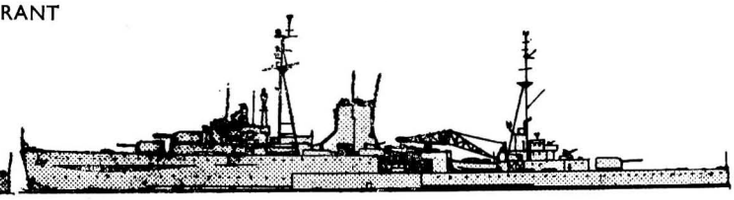
Scale: 150 ft. = 1 inch.



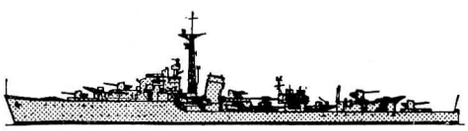
VIKRANT



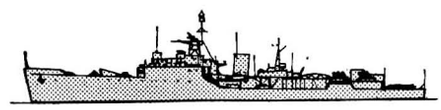
MYSORE



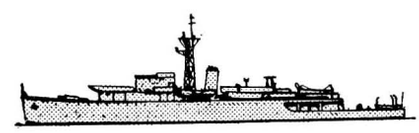
DELHI



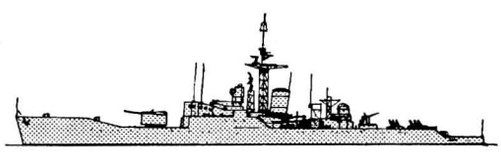
RANA, RAJPUT, RANJIT



KHUKRI, KIRPAN, KATHAR



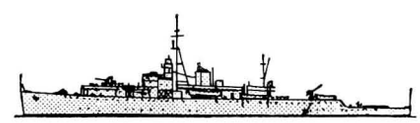
SUTLEJ



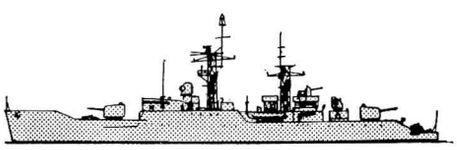
TALWAR, TRISHUL



GANGA, GODVARI, GOMATI



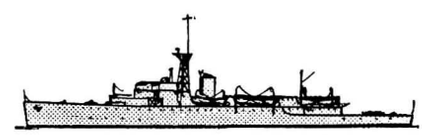
TIR



BEAS, BETWA, BRAHMAPUTRA

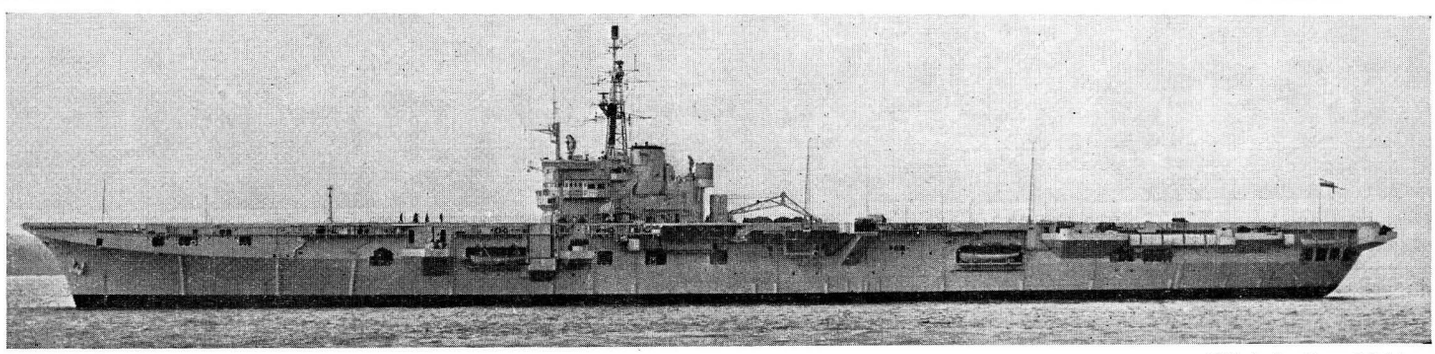


JUMNA



INVESTIGATOR

AIRCRAFT CARRIER



VIKRANT

1961, *Indian Navy, Official*

VIKRANT (ex-H.M.S. *Hercules*)

Pennant No.:	R 11
Builders:	Vickers-Armstrongs, Ltd., Tyne
Engineers:	Parsons Marine Steam Turbine Company
Laid down:	14 Oct. 1943
Launched:	22 Sep. 1945
Completed:	4 Mar. 1961 (commissioned)
Displacement:	16,000 tons *standard* (19,550 tons *full load*)
Dimensions:	Length: 630 (*pp.*), 700 (*o.a.*) feet. Beam (*hull*): 80 feet. Draught: 24 feet. Width overall, including angled deck and mirror sponsons: 128 feet
Guns:	15—40 mm. Bofors AA. (4 twin, 7 single)
Aircraft:	21 (capacity)
Machinery:	Parsons single-reduction geared turbines. 2 shafts. S.H.P.: 40,000 = 24·5 kts. designed
Boilers:	4 Admiralty 3 drum type
Complement:	Accommodation designed for 1,343

General Notes

The construction of this ship was suspended in May 1946. When she was structurally approaching completion and was about 75 per cent fitted out the contract was cancelled, and in May 1947 she was laid up at Faslane, Scotland.

In Jan. 1957 she was acquired from the Government of Great Britain for the Indian Navy.

In Apr. 1957 she arrived at Belfast to be taken in hand for large scale reconstruction and modernisation by Harland & Wolff Ltd. She was renamed *Vikrant* and commissioned on 4 Mar. 1961.

Habitability Notes

Partially air-conditioned and insulated for tropical service, the ship's sides being sprayed with asbestos cement instead of being lagged. Separate messes and dining halls. Pressed watertight doors of smaller pattern.

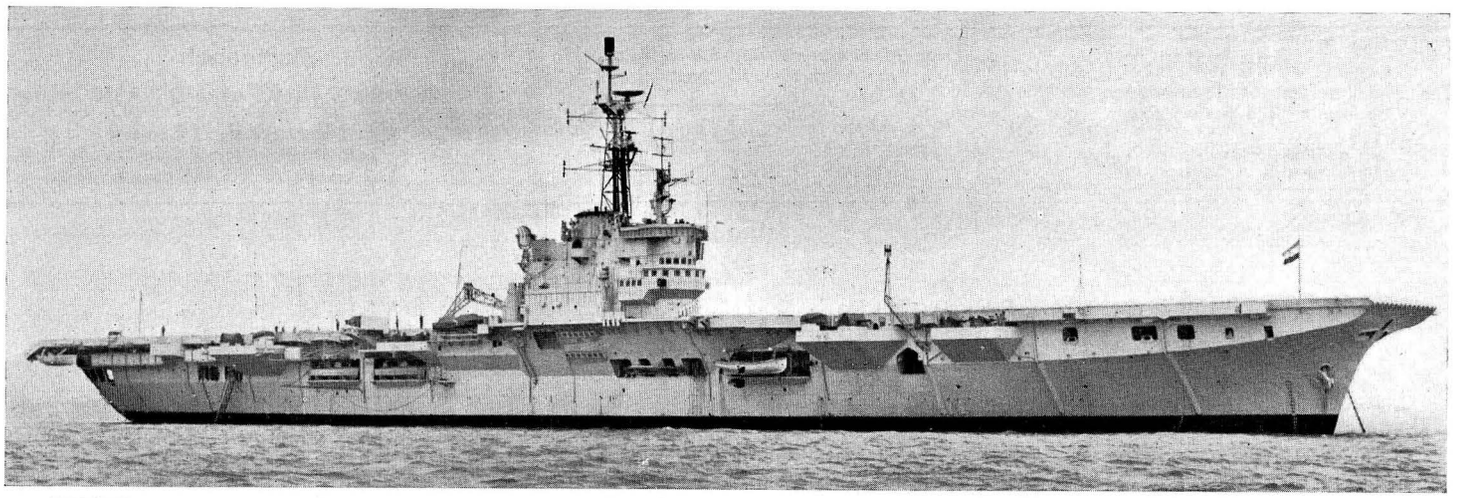
Engineering Notes

Engines and boilers are arranged *en echelon*, one set of turbines and two boilers being installed side by side in each of the two main propelling machinery spaces, on the unit system, so that the starboard propellor shaft is longer than the port. The boilers work at a pressure of 400 lb. per sq. in. and a temperature of 700 degrees maximum-superheat.

Flight Deck Notes

The aircraft complement, consisting of Seahawk strike and Breguet Alize anti-submarine aircraft, operate from an angled flight deck, which is equipped with a steam catapult, mirror deck landing sights and two electrically operated aircraft lifts.

Aircraft Carrier—*continued*

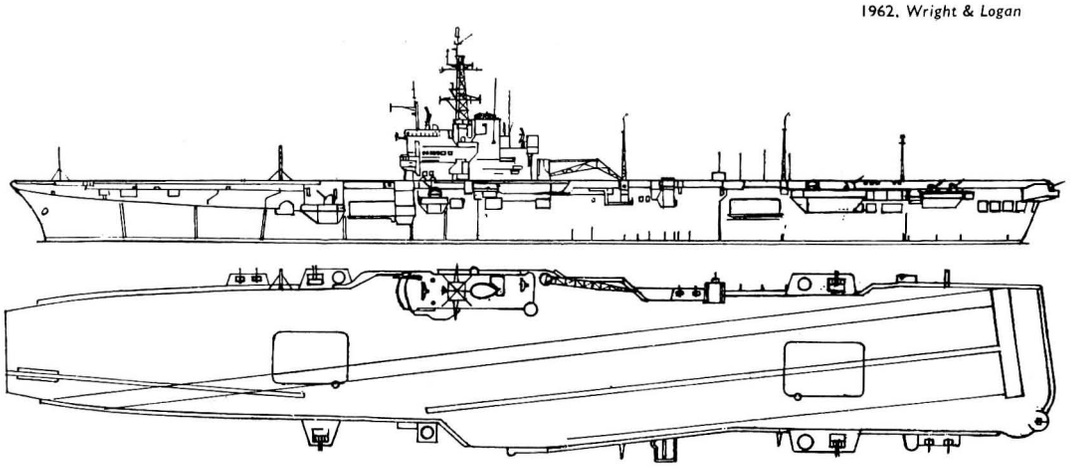


VIKRANT

1962, *Wright & Logan*

Class Notes
Originally a sister ship of *Leviathan* (never completed) and *Magnificent* (in the Royal Canadian Navy 1946-57) of the Royal Navy; *Sydney* (ex-*Terrible*) and *Melbourne* (ex-*Majestic*) in the Royal Australian Navy; and *Bonaventure* (ex-*Powerful*) in the Royal Canadian Navy.

Notes to Drawing
Port elevation and plan of *Vikrant*. Drawn in 1962. Scale: 128 feet= 1 inch.



CRUISERS



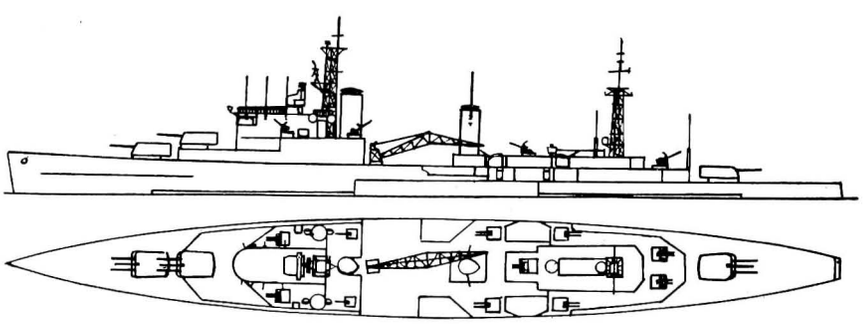
MYSORE

1961, *Admiralty, Official*

MYSORE (ex-*Nigeria*)

Pennant No.:	C 60
Builders:	Vickers-Armstrongs, Ltd., Tyne
Engineers:	Parsons
Laid down:	8 Feb. 1938
Launched:	18 July 1939
Completed:	20 Sep. 1940
Displacement:	8,700 tons *standard* (11,040 tons *full load*)
Dimensions:	Length: 549 (*w.l.*), 555½ (*o.a.*) feet Beam: 62 feet. Draught: 19 (*mean*), 21 (*max*) feet
Guns:	9—6 inch, 8—4 inch AA., 12—40 mm. AA. (5 twin, 2 single)
Tubes:	Removed
Armour:	4½"-3" side, 2" turrets, 4" C.T., 2" deck
Machinery:	Parsons geared turbines. 4 shafts. S.H.P.: 72,500=31·5 kts.
Boilers:	4 Admiralty 3-drum type
Complement:	730

General Notes
Formerly a "Colony" class cruiser in the Royal Navy. Purchased from Great Britain (announced 8 April 1954) for £300,000. Underwent an extensive refit and conversion by Cammell Laird & Co. Ltd., Birkenhead, which was completed at the end of 1957, before commissioning for operational service. Now flagship of the Indian Navy.



Transfer Notes
The ship was formally handed over to the Indian Navy at Birkenhead and renamed *Mysore* on 29 Aug. 1957.

Reconstruction Notes
Ship formerly had tripod masts. During reconstruction the triple 6 inch turret in "X" position and the 6—21 inch torpedo tubes (tripled) were removed, the bridge was modified, and two lattice masts were stepped. All electrical equipment was replaced and the engine room and other parts of the ship were refitted extensively.

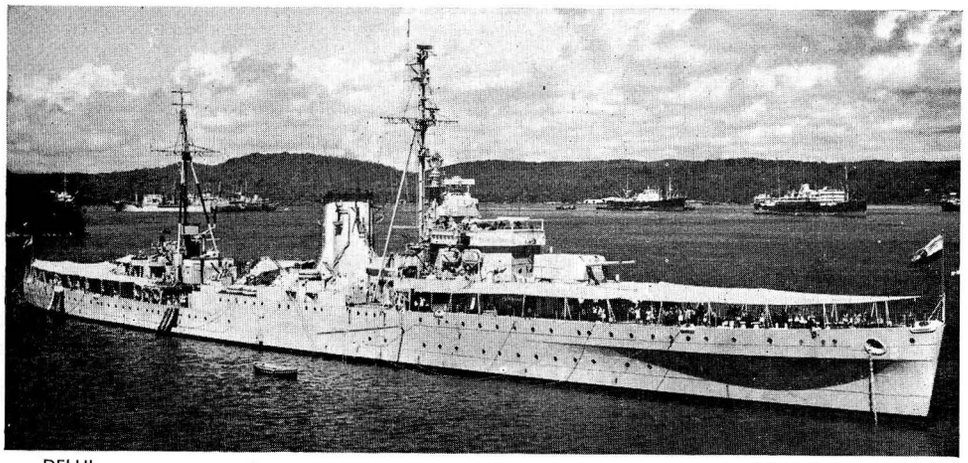
Notes to Drawing
Port elevation and plan. Redrawn in 1958. Scale 128 feet =1 inch.

Cruisers—*continued*

DELHI (ex-*Achilles*)

Pennant No.:	C 74
Builders	Cammell Laird & Co. Ltd., Birkenhead
Laid down:	11 June 1931
Launched:	1 Sep. 1932
Completed:	10 Oct. 1933

Displacement:	7,114 tons *standard* (9,740 tons *full load*)
Dimensions:	Length: 530 (*pp.*), 554½ (*o.a.*) feet. Beam: 55½ feet. Draught: 16 feet (*mean*), 20 feet (*max.*)
Guns:	6—6 inch, 8—4 inch AA., 14—40 mm. AA., 4—3 pdr.
Tubes:	Removed
Armour:	4"—2" side, 1" gunhouses, 1" bridge, 2" deck
Machinery:	Parsons geared turbines. 4 shafts. S.H.P.: 72,000=32 kts.
Boilers:	4 Admiralty 3-drum type
Oil fuel:	1,800 tons
Complement:	750

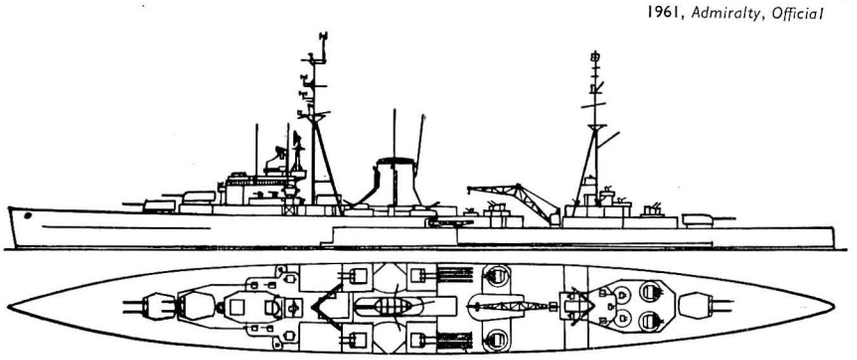


DELHI 1961, *Admiralty, Official*

General Notes
Formerly a "Leander" class light cruiser in the Royal Navy. Purchased from Great Britain and delivered on 5 July 1948. Refitted in 1955. Formerly the flagship of the Indian Navy until relieved by the *Mysore* in 1957.

Historical Notes
As H.M.S. *Achilles*, this ship, with H.M.S. *Ajax* and H.M.S. *Exeter*, defeated the German armoured ship (pocket battleship) *Admiral Graf Spee* in the Battle of the River Plate, 17 Dec. 1939. The *Achilles* was at that time lent to the Royal New Zealand Navy.

Notes to Drawing
Port elevation and plan. Re-drawn in 1957. Scale: 128 feet=1 inch. In 1958 the 8—21 inch torpedo tubes (two quadruple banks) were removed and the forecastle plating was extended aft to the twin 40 mm. AA. guns abreast the boat stowage.



DESTROYERS

3 "R" Class

RANA (ex-*Raider*) **RANJIT** (ex-*Redoubt*)
RAJPUT (ex-*Rotherham*)

Displacement:	1,735 tons (*Rajput* 1,750 tons) *standard;* 2,495 tons (*Rajput*) 2,510 tons) *full load*
Dimensions:	358½×35¾×9½ (*mean*), 16 (*max.*) feet
Guns:	4—4·7 inch, 4—40 mm. AA.
Tubes:	8—21 inch (two quadruple banks)
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts. (*max.*), 32 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	490 tons
Radius:	2,500 miles at 20 kts.
Complement:	220



RAJPUT 1962, *A. & J. Pavia*

General Notes
These were the first British destroyers with officers' accommodation forward instead of aft. They were refitted and modernised prior to transfer, *Ranjit* on 4 July 1949; *Rajput* on 29 July 1949; and *Rana* in Sep. 1949. All three arrived in Indian waters in Jan. 1950. They constitute the 11th Destroyer Squadron of which *Rajput* is Leader. The Defence Minister has announced that India hopes to build destroyers in the next two years at the dockyards acquired by the Indian Navy in Bombay and Calcutta.

Photograph Notes
Photographs of *Rana* in the 1953-54 to 1957-58 editions. Photograph of *Ranjit* in the 1954-55 to 1961-62 editions.

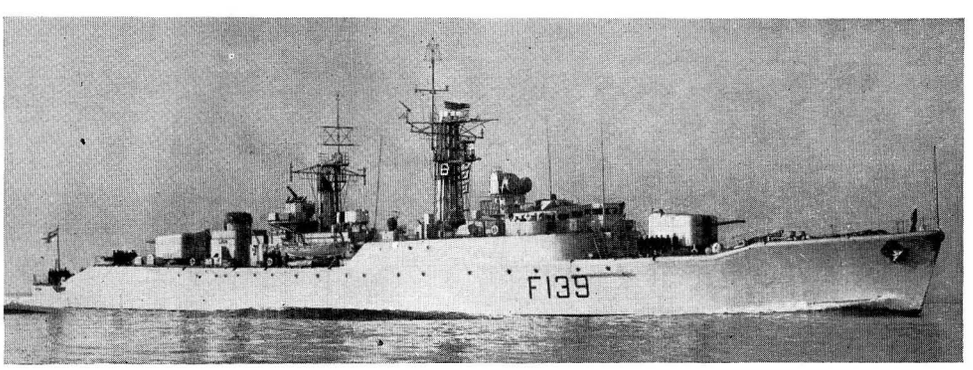
Pennant No.	*Name*	*Builders*	*Begun*	*Launched*	*Completed*
D 115	*Rana*	Cammell Laird & Co. Ltd., Birkenhead	16 Apr. 1941	1 Apr. 1942	16 Nov. 1942
D 209	*Rajput*	John Brown & Co. Ltd., Clydebank	10 Apr. 1941	21 Mar. 1942	27 Aug. 1942
D 141	*Ranjit*	John Brown & Co. Ltd., Clydebank	19 June 1941	2 May 1942	1 Oct. 1942

ANTI-AIRCRAFT FRIGATES

3 "Leopard" Class

BEAS **BETWA** **BRAHMAPUTRA** (ex-*Panther*)

Displacement:	2,251 tons *standard* (2,515 tons *full load*)
Dimensions:	320 (*pp.*), 340 (*o.a.*)×40×10 (*mean*) 12 (*max.*) feet
Guns:	4—4·5 inch (in two twin turrets), 2—40 mm. AA. (twin)
A/S weapons:	Squid triple barrelled depth charge mortar
Machinery:	Admiralty standard range diesels 2 shafts. B.H.P.: 12,380=25 kts.
Oil fuel:	230 tons
Complement:	210



BETWA 1961, *Wright & Logan*

Notes
Brahmaputra was originally ordered as the *Panther* for the Royal Navy on 28 June 1951. All three ships are generally similar to the British frigates of the "Leopard" class, but modified to suit Indian conditions. The *Brahmaputra* was the first major warship to be built in Great Britain for the Indian Navy since India became independent.

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 137	*Beas*	Vickers-Armstrongs Ltd., Newcastle-on-Tyne	9 Oct. 1958	24 May 1960
F 139	*Betwa*	Vickers-Armstrongs Ltd., Newcastle-on-Tyne	15 Sep. 1959	8 Dec. 1960
F 31	*Brahmaputra*	John Brown & Co. Ltd., Clydebank	15 Mar. 1957	31 Mar. 1958

ANTI-SUBMARINE FRIGATES

2 " Whitby " Class. 1st Rate

	TALWAR	**TRISHUL**
Name:	*Talwar*	*Trishul*
Pennant No.:	F 140	F 143
Builders:	Cammell Laird & Co. Ltd., Birkenhead	Harland & Wolff Ltd., Belfast
Launched:	18 July 1958	18 June 1959
Completed:	1960	1960

Displacement:	2,144 tons *standard* (2,545 and 2,557 tons *full load*, respectively)
Dimensions:	360 (*pp.*), 370 (*o.a.*) × 41 × 12 feet
Guns:	2—4·5 inch, 4—40 mm. AA. (twin before Limbos, single abaft funnel)
Tubes:	Provision for 12—21 inch (8 single A/S, two twin), but not fitted
A/S weapons:	2 Limbo three barrelled depth charge mortars
Machinery:	2 sets geared turbines. 2 shafts S.H.P.: 30,430=over 30 kts.
Oil fuel:	400 tons
Boilers:	2 Babcock & Wilcox
Complement:	231 (11 officers, 220 ratings)

Notes
Built in Great Britain and generally similar to the British frigates of the " Whitby " class, but without torpedo tubes and modified to suit Indian conditions. Talwar is a common type of weapon in India.



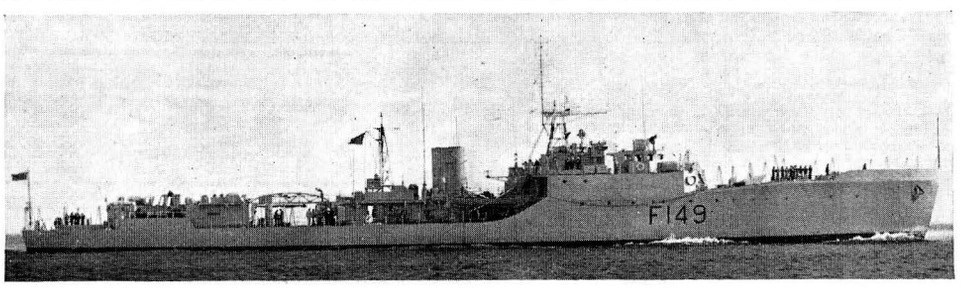
TALWAR — 1961, *Admiralty, Official*

3 " Blackwood " Class. 2nd Rate

KHUKRI	**KIRPAN**	**KUTHAR**

Displacement:	1,180 tons *standard* (1,536 tons *full load*)
Dimensions:	300 (*pp.*), 310 (*o.a.*) × 33 × 10 feet
Guns:	3—40 mm. Bofors AA. Mk. 9
Tubes:	Provision for 4—21 inch (two twin), but not fitted
A/S weapons:	2 Limbo three-barrelled depth charge mortars, Mk. 10
Machinery:	1 set geared turbines. 1 shaft. S.H.P.: 15,000=27·8 kts. (24·5 kts. *max.* continuous sea speed)
B2 oilers:	Babock & Wilcox
Oil fuel:	300 tons
Complement:	140

Notes
Built in Great Britain, and generally similar to the British frigates of the " Blackwood " class; but without torpedo tubes and slightly modified to suit Indian requirements. Kirpan means Sword.



KHUKRI — 1960, *courtesy J. Samuel White & Co., Ltd., Builders*

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 149	*Khukri*	J. Samuel White & Co. Ltd., Cowes, Isle of Wight	20 Nov. 1956	16 July 1958
F 144	*Kirpan*	Alex Stephen & Sons Ltd., Govan, Glasgow	19 Aug. 1958	July 1958
F 146	*Kuhar*	J. Samuel White & Co. Ltd., Cowes, Isle of Wight	14 Oct. 1958	1959

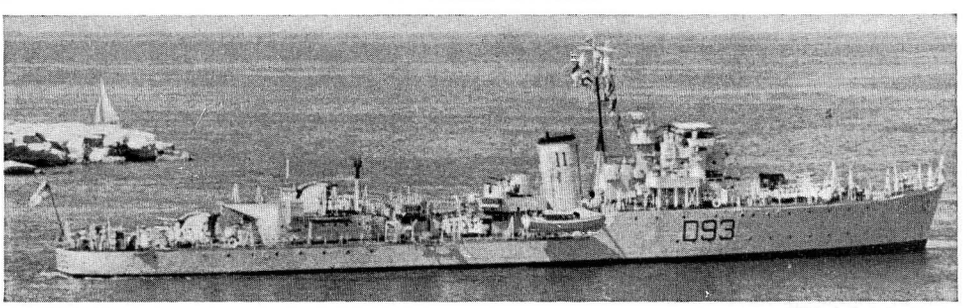
FRIGATES (Escort Destroyers)

3 " Hunt " Class, Type II

GANGA (ex-*Chiddingfold*)
GODAVARI (ex-*Bedale*, ex-*Slazak*, ex-*Bedale*)
GOMATI (ex-*Lamerton*)

Displacement:	1,050 tons *standard* (1,610 tons *full load*)
Dimensions:	264½ (*pp.*), 280 (*o.a.*) × 31½ × 7⅝ (*mean*), 14 (*max.*) feet
Guns:	6—4 inch AA., 4—20 mm. AA.
Machinery:	Parsons geared turbines. 2 shafts S.H.P.: 19,000=25 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	280 tons
Radius:	3,700 miles at 14 kts.
Complement:	191

General Notes
" Hunt " class, Type II frigates (ex-Escort Destroyers) F 131, F 126, and F 88, respectively. Transferred from Great Britain April/May 1953. Lent to Indian Navy for a period of three years, subject to extension by agreement. Officially rated as destroyers with D pennant Nos. and constitute the 22nd Destroyer Squadron.
Photograph Notes
Photograph of *Godavari* in the 1953-54 to 1955-56 editions. Photograph of *Ganga* in the 1954-55 to 1959-60 editions.



GOMATI — 1954, *A. & J. Pavia*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 94	*Ganga*	Scott's Shipbuilding & Engineering Co. Ltd., Greenock	1 Mar. 1940	10 Mar. 1941	16 Oct. 1941
D 92	*Godavari*	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn	29 May 1940	5 Sep. 1941	18 June 1944
D 93	*Gomati*	Swan, Hunter & Wigham Richardson Ltd., Wallsend	10 Apr. 1940	14 Dec. 1940	16 Aug. 1944

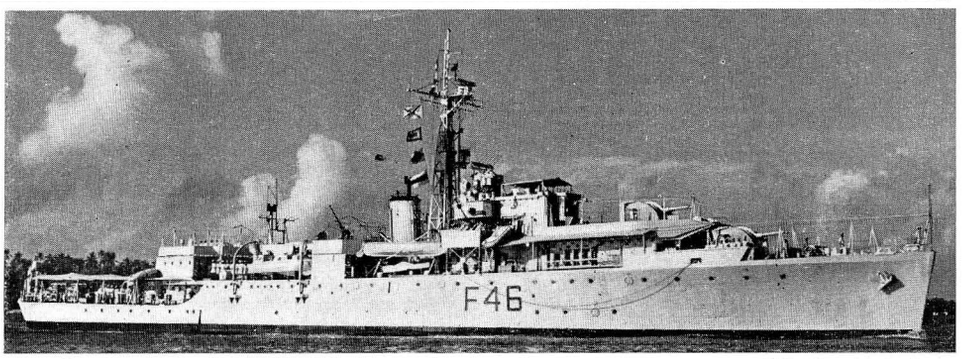
FRIGATES (ex-Sloops)

2 " Kistna " Class

CAUVERY	**KISTNA**

	Cauvery	*Kistna*
Name:	*Cauvery*	*Kistna*
Pennant No.:	F 110	F 46
Builders:	Yarrow & Co. Ltd., Scotstoun, Glasgow	Yarrow & Co. Ltd., Scotstoun, Glasgow
Laid down:	28 Oct. 1942	14 July 1942
Launched:	15 June 1943	22 Apr. 1943
Completed:	21 Oct. 1943	23 Aug. 1943
Displacement:	1,470 tons *standard* (1,925 tons *full load*)	
Dimensions:	292½ (*pp.*), 299½ (*o.a.*) × 38½ × 11¼ feet	
Guns:	4—4 inch, 2—40 mm. AA., 2—20 mm. AA.	
A/S weapons	2 D.C.T.	
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 4,300=19 kts.	
Boilers:	2 of 3-drum type	
Oil fuel:	370 tons	
Radius:	4,500 miles at 12 kts.	
Complement:	200	

Notes
Former sloops of the British " Black Swan " type built for India and modified to suit her conditions. Retained on the effective list, but likely to be disposed of in the near future. *Cauvery* and *Kistna*, together with *Jumna* (see next page) constituted the 12th Frigate Squadron. A photograph of *Cauvery* appears in the 1955-56 to 1959-60 editions.



KISTNA — 1962, *Edward Rodwell*

TRAINING FRIGATE

1 "River" Class

TIR (ex-*Bann*)

Pennant No.:	F 256
Builders:	Charles Hill & Sons Ltd., Bristol
Laid down:	18 June 1942
Launched:	29 Dec. 1942
Completed:	7 May 1943
Displacement:	1,490 tons *standard* (2,216 tons *full load*)
Dimensions	283 (*pp.*), 301½ (*o.a.*) × 36⅔ × 14 feet
Guns:	1—4 inch, 1—40 mm., 2—20 mm.
Machinery:	Reciprocating vertical 4-cylinder triple expansion. 2 shafts. I.H.P: 5,500=18 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	640 tons
Radius:	9,500 miles at 12 kts.
Complement:	118

Notes

Former "River" class frigate in Royal Navy. Converted to a Midshipmen's Training Frigate by Bombay Dockyard in 1948. Originally the sister ship of survey ship *Investigator*, see below.



TIR

1954, *Wright & Logan*

SURVEYING VESSELS

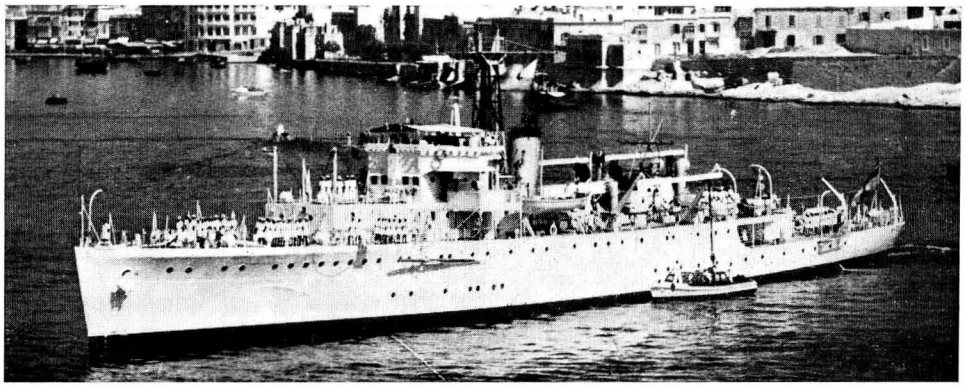
1 New Construction

DARSHAK

Builders:	Hindustan Shipyard
Launched:	2 Nov. 1959
Displacement:	2,790 tons
Dimensions:	319 (*o.a.*) × 49 × 28¾ feet
Aircraft:	1 helicopter
Machinery:	2 diesel-electric propulsion plants. Service speed=16 kts.

Notes

This ship marks a new stage in Indian shipbuilding. She was the first ship to be built by the Indian yard for the Navy. The ship will be operated by the Navy's hydrographic branch to undertake a marine survey of the Indian coastline and harbours. She is being fitted with the latest surveying and navigational equipment, and will have several surveying boats and motor launches. She will also carry a helicopter. The ship is all welded.

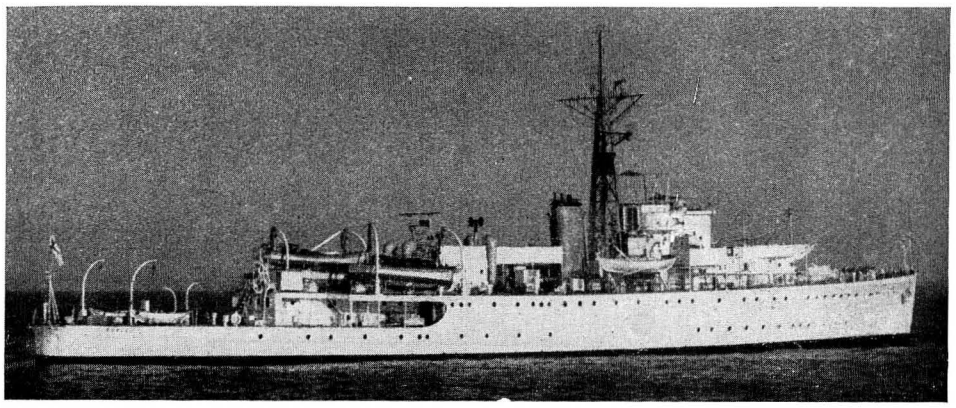


JUMNA

1962, *A. & J. Pavia*

2 "Sutlej" Class (Ex-Frigates, ex-Sloops)

	JUMNA	**SUTLEJ**
Name:	*Jumna*	*Sutlej*
Pennant No.:	F 11	F 95
Builders:	Wm. Denny & Bros. Ltd., Dumbarton	Wm. Denny & Bros. Ltd., Dumbarton
Laid down:	20 Feb. 1940	4 Jan. 1940
Launched:	16 Nov. 1940	1 Oct. 1940
Completed:	13 May 1941	23 Apr. 1941
Displacement:	1,300 tons *standard* (1,735 tons *full load*)	
Dimensions:	266 (*w.l.*), 292½ (*o.a.*) × 37½ × 10⅝ (*mean*) feet	
Machinery:	Parsons geared turbines. 2 shafts S.H.P.: 3,600=18 kts.	
Boilers:	2 Admiralty 3-drum type	
Oil fuel:	370 tons	
Radius:	4,500 miles at 12 kts.	
Complement:	160 to 197	



SUTLEJ

1958, *Indian Navy, Official*

Notes

Former frigates employed as survey ships since 1957 and 1955 respectively.

Both the above ships are generally similiar to the former British frigates of the "Egret" class.

Jumna, together with *Cauvery* and *Kistna* (see previous page) formerly constituted the 12th Frigate Squadron.

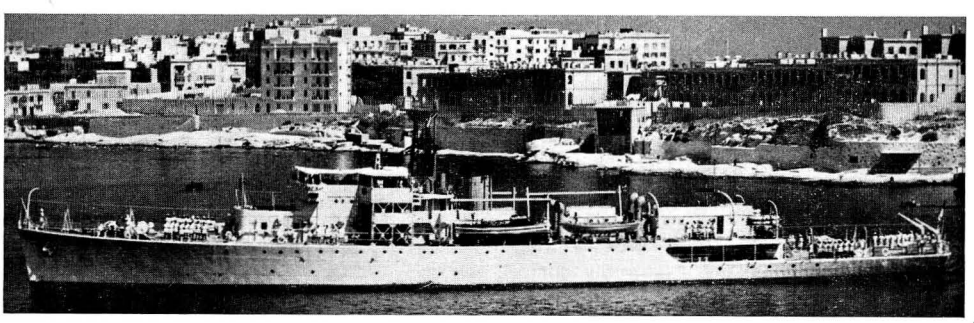
1 "River" Class (ex-Frigate)

INVESTIGATOR (ex-*Khukri*, ex-*Trent*)

Pennant No.:	F 243
Builders:	Charles Hill & Sons Ltd., Bristol
Laid down:	31 Jan. 1942
Launched:	10 Oct. 1942
Completed	27 Feb. 1943
Displacement:	1,460 tons *standard* (2,000 tons *full load*)
Dimensions:	283 (*pp.*), 301½ (*o.a.*) × 36⅔ × 12 feet
Machinery:	Triple expansion. I.H.P.: 5,500=18 kts. (*max.*)
Boilers:	2 Admiralty 3-drum type
Complement:	100

Notes

Former "River" class frigate in Royal Navy. Converted to a surveying vessel and renamed *Investigator* in 1951. Originally the sister ship of the training frigate *Tir*, see above.



INVESTIGATOR

1962, *A. & J. Pavia*

Recent Disposals of Ocean Minesweepers

Of the old ocean minesweepers, *Rohilkhand* and *Rajputann* were disposed of in 1960, and *Bengal Bombay* and *Madras* in 1961. *Konkan* will be discarded in the near future (see full particulars and photographs in the 1959-60 edition).

COASTAL MINESWEEPERS



CANNANORE 1957 *Wright & Logan*

4 " Ton " Class

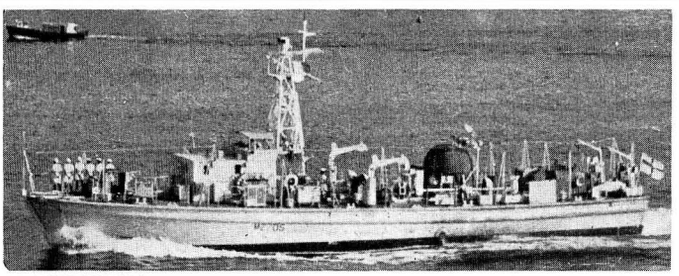
CANNANORE (ex-*Whtton*) M 1191
CUDDALORE (ex-*Wennington*) M 1190
KAKINADA (ex-*Durweston*) M 1201
KARWAR (ex-*Overton*) Leader M 1197

Displacement:	360 tons *standard* (425 tons *full load*)
Dimensions:	140 (*pp.*), 153 (*o.a.*) × 28⅔ × 8½ feet
Guns:	1—40 mm. Bofors AA., 2—20 mm. AA.
Machinery	Napier Deltic diesels. 2 shafts. B.H.P.: 1,250=15 kts.
Oil fuel:	45 tons
Complement:	27

Notes

" Ton " class coastal minesweepers of wooden construction built for the Royal Navy, but transferred from Great Britain to the Indian Navy in 1956. *Cannanore* built by Fleetlands Shipyard, Ltd., Gosport, launched 28 Jan. 1956; *Karwar* built by Camper & Nicholson, Ltd., Gosport, launched 30 Jan. 1956. *Cuddalore* built by J. S. Doig, Ltd., Grimsby, and *Kakinada* built by Dorset Yacht Co. Ltd., Hamworthy, taken over in August 1956, and sailed for India Nov./Dec. 1956. Named after minor ports in India. Constitute the 149th Minesweeping Squadron. Four more are to be acquired. Coastal minesweepers will first be built at the dockyards acquired by the Indian Navy in Bombay and Calcutta.

INSHORE MINESWEEPERS



BIMLIPITAN 1956, *A. & J. Pavia*

2 " Ham " Class

BASSEIN (ex-*Littleham*) M 2707
BIMLIPITAN (ex-*Hildersham*) M 2705

Displacement:	120 tons *standard* (170 tons *full load*)
Dimensions:	100 (*pp.*), 106½ (*o.a.*) × 21¼ × 5 feet
Guns:	1—20 mm. Oerlikon AA.
Machinery:	2 Paxman diesels. B.H.P.: 550=14 kts. (9 kts. sweeping)
Oil fuel:	15 tons
Complement:	14

Notes

" Ham " class inshore minesweepers of wooden construction built for the Royal Navy but transferred from Great Britain to the Indian Navy in 1955. *Bassein* was built by Brooke Marine Ltd., Oulton Broad, Lowestoft, and launched on 4 May 1954; *Bimlipitan* was built by Vosper Ltd., Portsmouth, and launched on 5 Feb. 1954. In the 239th Minesweeping Squadron.

Recent Disposals

Barq (ex-*MMS* 132), *MMS* 130 and *MMS* 154, former British motor minesweepers of " 105 ft." type, of wooden construction, transferred from Great Britain, have been relegated to yard craft. *MMS* 1632 and *MMS* 1654 are yard craft in *Bombay*.

SEAWARD DEFENCE BOATS

3 New Construction

ABHAY **AJAY** **AKSHAY**

Displacement:	120 tons *standard* (160 tons *full load*)
Dimensions:	110 (*pp.*), 117¼ (*o.a.*) × 20 × 5 feet
Guns:	1—40 mm. AA.
Machinery:	2 diesels. Speed=18 kts.

Notes

Reported to be generally similar to the " Ford " class in the Royal Navy. *Ajay* was built by Garden Reach Workshop, Calcutta and commissioned in Sep. 1960. *Abhay* amd *Akshay* were both built by Hoogly Docking and Engineering Company Ltd., Calcutta and commissioned in Nov. 1961 and Jan. 1962, respectively, it is officially stated.

6 " Savitri " Class

SAVITRI *SPC* 3128 **SHARDA** *SPC* 3133 **SUKANYA** *SPC* 3132
SHARAYU *SPC* 3129 **SUBHADRA** *SPC* 3130 **SUVARNA** *SPC* 3131

Displacement:	63 to 66 tons *light*, 70 tons *standard* (approx. 100 tons *full load*)
Dimensions:	85½ (*pp.*), 90¼ (*o.a.*) × 20 × 5 feet
Guns:	1—40 mm. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,900=21 kts.

Notes

Reported that all of these boats are in commission. Constitute the 322nd S.P.C. Squadron, of which *Sharayu* is Leader. Reported to be a mixed squadron of boats acquired partly from Italy and partly from Yugoslavia and the Netherlands (i.e. boats or equipment). It is stated that the watch boats *Jawahar* and *Subhas* are not part of the Indian Fleet.

REPAIR SHIP

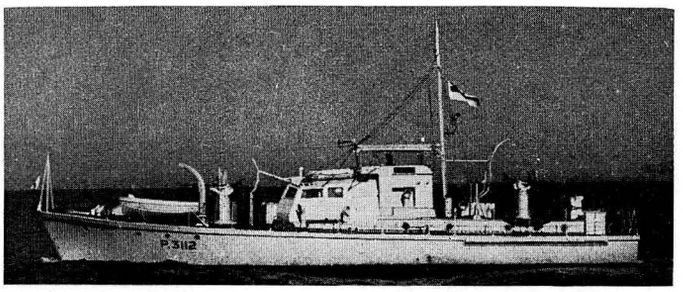
DHARINI (ex-*Hermine*)

Displacement:	4,625 tons
Dimensions:	328 × 46 feet
Machinery:	Triple expansion
Oil fuel:	621 tons

Notes

Cargo ship converted to a tender. Work suspended in July 1957, but subsequently resumed. Officially rated as a repair and store ship. Commissioned in May 1960.

SEAWARD PATROL CRAFT



SPC 3112 1957, *Indian Navy, Official*

4 HDML Type

SPC 3110 (ex-*HDML* 1110) **SPC 3117** (ex-*HDML* 1117)
SPC 3112 (ex-*HDML* 1112) **SPC 3118** (ex-*HDML* 1118)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5½ feet
Guns:	1—3 pdr., 1—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 320=12 kts.
Complement:	14

Notes

Former British Harbour Defence Motor Launches. These boats, formerly known as Seaward Defence Motor Launches, constitute the 321st Sea/Land Patrol Craft Squadron.

1 Fairmile " B " Type

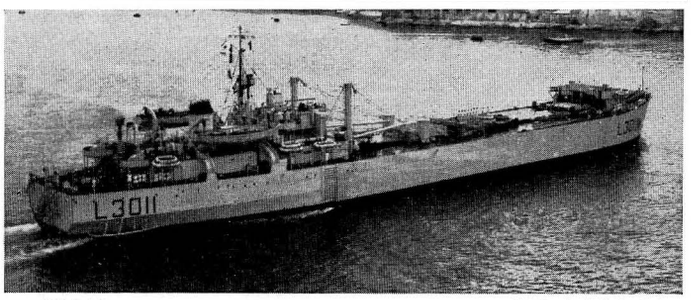
SPC 6420 (ex-*ML*, 6420, ex-*ML* 420)

Displacement:	65 tons
Dimensions:	112 × 18¼ × 5 (*max.*) feet
Guns:	2—20 mm. AA.
Machinery:	2 Hall-Scott Defender engines. B.H.P.: 1,200=20 kts.
Complement:	18

Notes

Fairmile " B " type. Formerly at Bombay for training duties and used as a Torpedo School Torpedo Firing Ship. Now in reserve. Pennant No. P 6420. Photograph in the 1959-60 and earlier editions.

LANDING SHIP



MAGAR 1958, *A. & J. Pavia*

MAGAR (ex-*Avenger*, ex-*LST* (3) 3011)

Displacement:	2,256 tons *light* (4,980 tons *full load*)
Dimensions:	347½ (*o.a.*) × 55¼ × 12½ feet
Guns:	2—40 mm. Bofors AA., 6—20 mm. AA. (2 twin, 2 single)
Machinery:	Vertical reciprocating, 4 cylinder. 2 shafts. Speed: 12·75 kts.
Complement:	64

Notes

Former British tank landing ship of the LST (3) type transferred to the Indian Navy.

LANDING CRAFT

LCT 4294

Displacement:	200 tons
Dimensions:	187¼ × 38⅔ × 3½ feet
Machinery:	Speed 9·5 kts.

Notes

3,000 added to original numbers. LCT 4117, 4298, 4315, 4358 and 4360 were discarded in 1957, and LCT 4310 (photograph in the 1956-57 to 1960-61 editions) was discarded in 1961. LCT 4294 is relegated to a yard craft.

OILERS

SHAKTI

Displacement:	3,500 tons
Measurement:	2,900 tons *deadweight*
Dimensions:	323 × 44 × 20 feet
Machinery:	Diesel. Speed: 13 kts (*max.*), 9 kts. (*economical*)

Notes

Rated as Fleet Replenishment Group Tanker. Acquired from Italy in Nov. 1953.

CHILKA **SAMBHAR**

Displacement:	1,082 tons
Dimensions:	202 × 30⅔ × 13 feet
Machinery:	Triple expansion. I.H.P.: 809=9 kts.
Oil capacity:	800 tons

Notes

Chilka built by Blythwood Shipbuilding Co., Scotstoun, *Sambhar* by A. & J. Inglis, Ltd., Glasgow, launched 1942. Both acquired in 1948. Engined by David Rowan & Co. Two steam dynamos, two steam pumps, ballast pump. Rated as yard craft.

TUG

HATHI

Displacement:	668 tons
Dimensions:	147½ × 32⅔ × 12 feet
Machinery:	Triple expansion. Speed: 13·5 kts.
Complement:	45

Notes

Built by Taikoo Dock & Eng. Co., Hong Kong. Launched in 1932.

INDONESIA

Administration

Minister of the Navy and Chief of Naval Staff:
Rear-Admiral Raden Edi Martadinata

Deputy Chief of Naval Staff:
Captain Josaphat Soedarso

Commander-in-Chief Indonesian Fleet:
Captain R. Moeljiadi

Naval Attaché in London:
Captain R. Sardjoeno

Personnel

16,000 officers and men, including 3,550 of the Marine Corps

Mercantile Marine

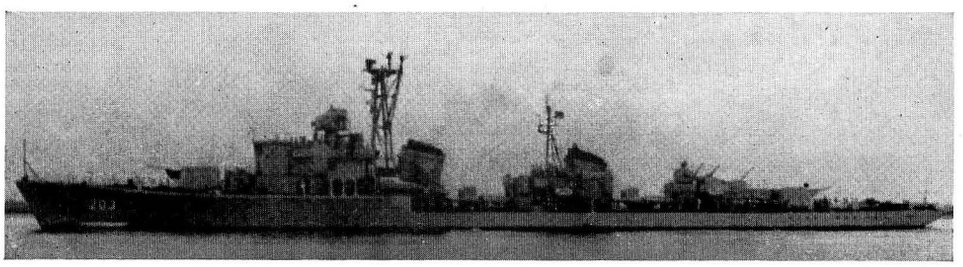
Lloyd's Register of Shipping
292 vessels of 273,885 tons *gross*

DESTROYERS

4 Ex-U.S.S.R. "Skoryi" Class

SANDJAJA **SILIWANGI**
SAWUNGGALING **SINGAMANGARADJA**

Displacement:	2,600 tons *standard* (3,500 tons *full load*)
Dimensions:	393¾ (*pp.*), 420 (*o.a.*) × 41 × 13⅛ feet
Guns:	4—5·1 inch (twin), 2—3 inch AA., 7—37 mm. AA. (Some have 8—37 mm. AA. in twin mounts).
Tubes:	10—21 inch
A/S weapons:	4 D.C.T.
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 70,000=38 kts.
Boilers:	3
Radius:	4,000 miles at 15 kts.
Complement:	250



SANDJAJA

1961, *Indonesian Navy, Official*

Notes
Former Soviet destroyers of the "Skoryi" type. Built in 1951-56. Purchased from Poland and transferred to the Indonesian Navy in 1959. Pennant Nos. 203, 204, 201 and 202, respectively.

New Acquisitions
It has been reported that Indonesia is acquiring a cruiser from the U.S.S.R.

Recent Disposal
Gadjah-Mada (ex-*Tjerk Hiddes*, ex- *Nonpareil*) a destroyer of the British "N" class, purchased from Great Britain by the Netherlands in 1941, and transferred from the Royal Netherlands Navy to the Indonesian Navy on 1 Mar. 1951, is reported to have been scrapped in 1961.

FRIGATES

2 "Surapati" Class (*Light Destroyers*)

	IMAMBONDJOL	**SURAPATI**
Name:	*Imambondjol*	*Surapati*
Pennant No.	250	251
Laid down:	8 Jan. 1956	Jan. 1956
Launched:	5 May 1956	5 May 1956
Completed:	19 May 1958	28 May 1958

Displacement:	1,150 tons *standard* (1,500 tons *full load*)
Dimensions:	295¼ (*p.p.*), 325 (*o.a.*) × 36 × 8½ feet.
Guns:	4—4 inch (102 mm.) 46 cal. AA. in two twin mounts, 6—30 mm. (3 twin), 6—20 mm. AA. (3 twin)
Tubes:	3—21 inch
A/S weapons:	2 hedgehogs, 4 D.C.T., 1. D.C. track
Machinery:	2 sets Parsons geared turbines. 2 shafts, S.H.P.: 24,000=32 kts.
Boilers:	2 Foster Wheeler
Oil fuel:	350 tons
Radius:	2,800 miles at 22 kts. (cruising speed)
Complement:	200



SURAPATI

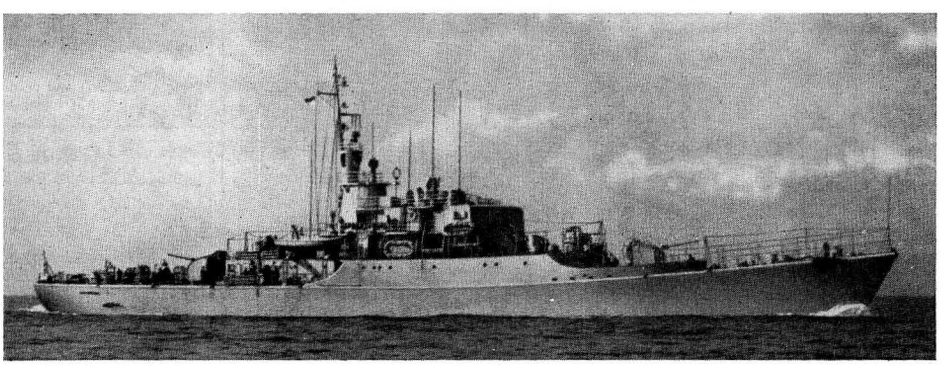
1959, *courtesy Ansaldo, Builders*

Notes
Fast frigate or light destroyer type. Both built at Ansaldo Yard, Leghorn, Italy. Photograph of *Imambondjol* in the 1958-59 edition.

2 "Pattimura" Class (*Escort Sloops*)

	PATTIMURA	**HASANUDIN**
Name:	*Pattimura*	*Hasanudin*
Pennant No.	252	253
Laid down:	8 Jan. 1956	8 Jan. 1956
Launched:	1 July 1956	24 Mar. 1957
Completed:	28 Jan. 1958	8 Mar. 1958

Displacement:	950 tons *standard* (1,200 tons *full load*)
Dimensions:	246 (*p.p.*), 270¼ (*o.a.*) × 34 × 9 feet
Guns:	2—3 inch, 40 cal. AA., 2—30 mm. 70 cal. Hispano Suiza A.A. (twin)
A/S weapons:	2 hedgehogs, 4 D.C.T., 1 D.C. track
Machinery:	3 Ansaldo-Fiat diesels. 3 shafts. B.H.P.: 6,900=22 kts.
Oil fuel:	100 tons
Radius:	2,400 miles at 18 kts. cruising speed)
Complement:	110



PATTIMURA

1958, *Indonesian Navy, Official*

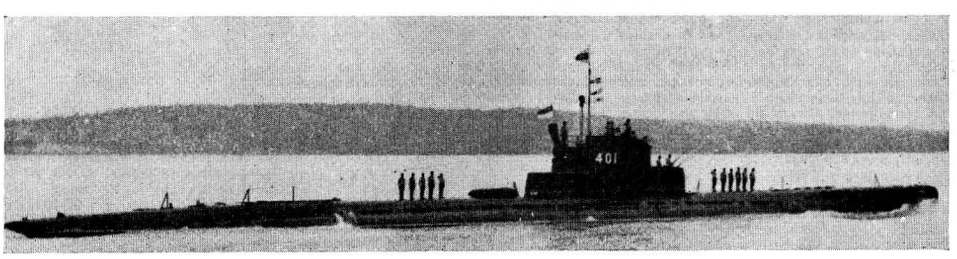
Notes
Small sloop or fast corvette type. Both built at Ansaldo Yard, Leghorn, Italy.

SUBMARINES

2 Ex-U.S.S.R. "W" Class

NANGGALA **TJAKRA**

Displacement:	1,030 tons (*surface*); 1,180 tons (*submerged*)
Dimensions:	240 (*o.a.*) × 22 × 15 (*max.*) feet
Guns:	2—57 mm., 2—25 mm.
Tubes:	6—21 inch (4 forward, 2 aft). 14 torpedoes carried
Mines:	40 mines or 20 torpedoes
Machinery:	Diesel-electric. Twin screws. Diesels B.H.P.: 4,000=17 kts. (*surface*) Electric motors: H.P.: 2,500=15 kts. (*submerged*)
Radius:	13,000 to 16,500 miles
Complement:	60



TJAKRA

1961, *Indonesian Navy, Official*

Notes
Former Soviet submarines of the medium sized, long range "W" class. Purchased from Poland and transferred to the Indonesian Navy in Aug. 1959. *Nanggala* was overhauled at Surabaja in 1960. Pennant Nos. 402 and 401, respectively.

It is reported that four more Soviet submarines of the "W" class arrived in Indonesia in 1962.

CORVETTES

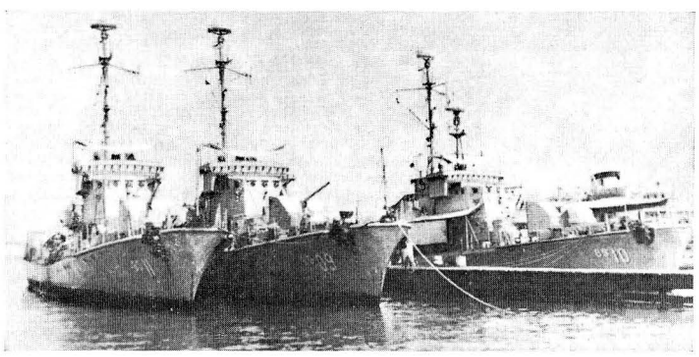
3 "Banteng" Class (*Ocean Minesweepers*)

BANTENG (ex-*Ambon*, ex-*Cairns*, 7 Oct. 1941)
PATI UNUS (ex-*Tidore*, ex-*Tamworth*, 14 Mar. 1942)
RADJAWALI (ex-*Banda*, ex-*Wollongong*, 5 July 1941)

Displacement:	815 tons *standard* (1,025 tons *full load*)
Dimensions:	162 (*pp.*), 186 (*o.a.*) × 31 × 8½ feet
Guns:	1—4 inch, 1—40 mm. AA., 4—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,000=15·5 kts.
Boilers:	2, of 3-drum type
Oil fuel:	170 tons
Radius:	4,300 miles at 10 kts.
Complement:	56 to 70

Notes
All built in Australia as ocean minesweepers, *Banteng* and *Pati Unus* by Walkers, Maryborough, *Hang Tuah* by Evans Deakin, Brisbane, and *Radjawali* by Cockatoo Docks & Eng. Co. Launch dates above. *Hang Tuah* and *Pati Unus* were transferred from the Royal Netherlands Navy on 28 Dec. 1949, *Banteng* and *Radjawali* on 6 Apr. 1950. *Hang Tuah* (ex-*Morotai*, ex-*Ipswich*) was reported to have been sunk by rebel planes off Balikpapan, East Borneo, on 28 Apr. 1958. *Pati Unus* has been removed from the fleet and transferred to the Training Establishment as training ship for ratings. Pennant Nos.: 254 (*Radjawali*), 255 (*Banteng*) and 256 (*Pati Unus*). A photograph of *Radjawali* appears in the 1955-56 to 1960-61 editions.

PATROL VESSELS



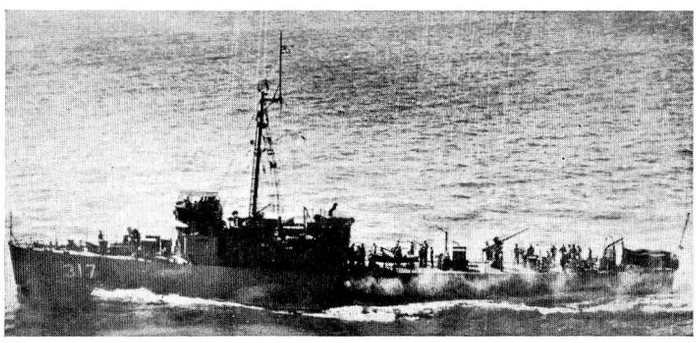
"Krondstadt" Class — 1961, *Indonesian Navy, Official*

8 Ex.U.S.S.R. "Kronstadt" Class Submarine Chasers

KATULA **LAPAI** **MADIDIHANG** **TJUTJUT**
LADJURA **LUMBA-LUMBA** **MOMARE** **TONGKOL**

Displacement:	300 tons
Dimensions:	167½ × 19½ × 9 feet
Guns:	1—3·9 inch, 2—37 mm. AA., 3—20 mm. AA.
A/S weapons:	Depth bomb projectors
Mines:	Fitted for laying
Machinery:	Diesels. 2 shafts. B.H.P.:=27 kts.
Oil fuel:	20 tons
Complement:	40

Notes
Former Soviet patrol vessels or submarine chasers of the "Kronstadt" type. Built in 1951-1954. Transferred to the Indonesian Navy on 30 Dec. 1958. Pennant Nos. 301 to 308.



TORANI — 1961, *Indonesian Navy, Official*

4 Ex-U.S. PC Type Submarine Chasers

HUI (ex-U.S.S. *Malvern*, *PC* 580)
TENGGIRI (ex-U.S.S. *PC* 1183)
TJAKALANG (ex-U.S.S. *Pierre*, *PC* 1141)
TORANI (ex-U.S.S. *Manville*, *PC* 581)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 7½ (*mean*), 10¾ (*max.*) feet
Guns:	1—3 inch, 1—40 mm. AA., 2—20 mm. AA., 4 D.C.T.
Machinery:	2 G.M. diesels. 2 shafts. B.H.P.: 2,880=20 kts.
Oil fuel:	60 tons
Radius:	5,000 miles at 10 kts.
Complement:	54 (4 officers, 50 men)

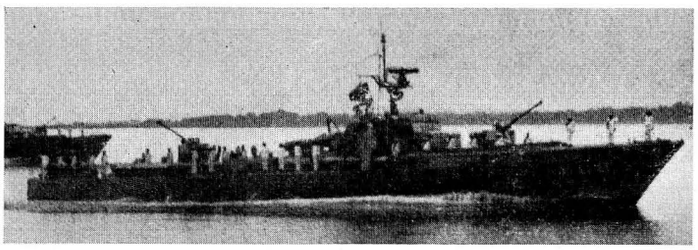
Notes
Former American submarine chasers of the steel-hulled PC type. *Pierre* was transferred from the U.S. Navy at Pearl Harbour, Hawaii, in Oct. 1958 and renamed *Tjakalang*. *Malvern* and *Manville* were transferred by the U.S.A. under the Mutual Defense Assistance Program in Mar. 1960 and renamed *Hui* and *Torani*, respectively. Pennant Nos. 318, 309, 313 and 317, respectively. *Alu-Alu* (ex-U.S.S. *PC* 787) has been removed from the effective list, it was officially stated in 1961.

Name	*Builders*	*Laid down*	*Launched*	*Completed*
Hui	Albina E. & M. Works, Portland, Ore.	22 Jan. '42	29 Apr. '42	26 Sep. '42
Tenggiri	Gibbs Gas Engine Co., Jacksonville, Fla.	27 Oct. '42	7 July '43	7 Dec. '43
Tjakalang	Defoe S.B. Corpn., Bay City, Mich.	12 Mar. '43	22 June '43	28 Dec. '43
Torani	Albina E. & M. Works, Portland, Ore.	12 Feb. '42	8 July '42	9 Oct. '42

10 Ex-U.S.S.R. Gunboats

Notes
These ten Soviet-built gunboats were transferred to Indonesia at Jakarta on 11 Oct. 1961.

MOTOR TORPEDO BOATS



SINGA — 1961, *Indonesian Navy, Official*

8 German-Built "Jaguar" Type

ADJAK **BIRUANG** **MADJAN KUMBANG** **SERIGALA**
ANOA **HARIMAU** **MATJAN TUTUL** **SINGA**

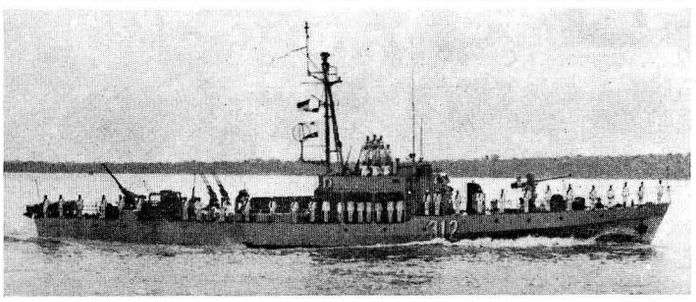
Displacement:	150 tons
Dimensions:	131 (*pp.*), 138 (*o.a.*) × 25 × 5 feet
Guns:	2—40 mm. AA. (single)
Tubes:	4—21 inch
Machinery:	4 Daimler-Benz diesels. 4 shafts. B.H.P.: 12,000=40-42 kts.
Complement:	39

Notes
Built to the order of the Indonesian Navy by the German yard of Fr. Lürssen, Bremen-Vegesack in 1959-60. Fast patrol boats similar to the motor torpedo boats or *schenllboote* of the "*Jaguar*" class in the West German Navy (*Bundesmarine*). The first four boats have wooden hulls, but the second four were built of steel. Pennant Nos. 601, 602, 603, 604, 605, 606, 607 and 608. A photograph of *Harimau* appears in the 1960-61 edition (page 434 Addenda).

8 Soviet-Built Type

Notes
Eight motor torpedo boats, built in Russia, were delivered in Aug.-Sept. 1961 and formed Indonesia's Second Torpedo Boat Squadron.
An Indonesian motor torpedo boat was reported sunk off Dutch New Guinea on 15 Jan. 1962.

PATROL BOATS



LAJANG — 1961, *Indonesian Navy, Official*

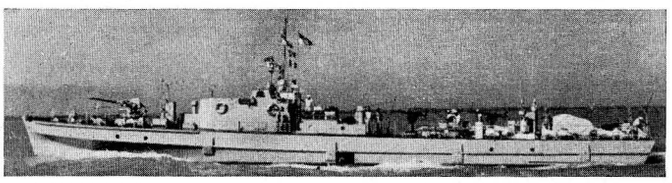
6 Ex-Yugoslavian "Kraljevica" Class Submarine Chasers

BUBARA **JAJANG** **LEMADANG**
DORANG **KRAPU** **TODAK**

Displacement:	190 tons *standard* (245 tons *full load*)
Dimensions:	134½ × 20¾ × 7 feet
Guns:	1—3 inch, 1—40 mm. AA., 6—20 mm. AA.
A/S weapons:	D.C.
Machinery:	2 MAN diesels. 2 shafts. B.H.P.: 3,300=20 kts.
Oil fuel:	15 tons
Radius:	1,500 miles at 12 kts.
Complement:	54

Notes
Former Yugoslavian patrol boats of the "Kraljevica" or "PBR 500" class. Purchased from Yugoslavia and transferred to the Indonesian Navy on 27th Dec. 1958. Pennant Nos. 310 to 312 and 314 to 316.

COASTAL MINESWEEPERS



PALAU ROTI — 1955, *Indonesian Navy, Official*

10 "R" Class (Raum-boats)

PALAU RAAS 503 **PALAU REMPANG** 508 **PALAU ROMA** 502
PALAU RANGSANG 506 **PALAU RENGAT** 509 **PALAU ROTI** 504
PALAU RAU 501 **PALAU RINDJA** 507 **PALAU RUPAT** 505
PALAU RUSA 510

Displacement:	139·4 tons *standard*
Dimensions:	129 × 18¾ × 5 feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Machinery:	2 MAN diesels 12 cyl. (V-motor type) B.H.P.: 2,800=24·6 kts.
Complement:	26

Notes
Built in Germany by Abeking & Rasmussen Yacht-und Bootswerft, Lemwerder I.O. n 1954-57. These boats have a framework of light metal covered with wood. Pennant numbers against names above.

DJAMPEA **DJOMBANG** **ENGGANO** (ex-*Hino Maru*) **FLORES**

Displacement:	175 tons
Dimensions:	106⅔ (*pp.*), 113¾ (*Flores* 114½) (*o.a.*) × 18¾ × 6¼ feet
Machinery:	1 Enterprise diesel. B.H.P.: 360=12·5 kts.

Notes
First three were commissioned in 1941. *Flores* was completed by the Japanese during the occupation of Java. First two were built at Droogdok Maatschappij, Soerabaya, and the other two at Droogdok Mij, Tandjorg Priok. Used as auxiliary minesweepers by the Royal Netherlands Navy. *Enggano* was re-named by Japanese. These ships were recovered after the war.

AUXILIARY PATROL CRAFT

DKN 901 DKN 902 DKN 903 DKN 904 DKN 905 DKN 906

Displacement: 140 tons
Dimensions: 128×19×5¼ feet
Guns: 4—20 mm. AA.
Machinery: Maybach diesels. 2 shafts. B.H.P.: 3,000=24·5 kts.

Notes
Coastal minesweepers to be used also as patrol craft and police boats. Built in Germany in 1958-59, three by Lürssen, Vegesack and the others by Abeking & Rasmussen, Lemiverder.

KELABANG

Notes
147-ton patrol craft launched on 22 Aug. 1960 at Surabja. Powered with West German built engines. A sister ship was to be launched in three months.

New Acquisitions
On 27 Feb. 1959 Indonesia announced she would acquire from the U.S.A. two minesweepers to be used as patrol craft.
Ex PGM 55, 56, 57. 95ft motor gunboats built in U.S.A. for transfer under MAP.

6 " Pat " Class

PAT 01 PAT 02 PAT 03 PAT 04 PAT 05 PAT 06

Dimensions: 91⅞ (*pp*), 100⅜ (*o.a.*)×17×6 feet
Machinery: 2 Caterpillar diesels. B.H.P.: 340

6 " Balam " Class

BALAM BARAU BEKAKA BELATIK BENDALU BOGA

Measurement: 200 tons *gross*
Dimensions: 125½ (*o.a.*)×21½×6½ feet
Machinery: Werkspoor diesel engine. B.H.P.: 400-430=11 kts.

Notes
All launched in 1953. *Balam* and others were commissioned for service in 1953.

7 " Bango " Class

BANGO BABUT BEO BETTET BIDO BLEKOK BLIBIS

Measurement: 194 tons *gross*
Dimensions: 120½ (*pp.*), 125¼ (*o.a.*)×21½×6-7/12 feet
Machinery: Werkspoor diesel engine. B.H.P.: 430=11 kts.

Note
All launched in 1952. A photograph of *Bettet* appears in the 1953-54 to 1960-61 editions.

7 " Durian " Class

DAIK DAGONG DAMARA DATA DUATA DUKU DURIAN

Displacement: 90 tons
Dimensions: 78½×16×6¾ feet
Machinery: Caterpillar diesel. B.H.P.: 190

Note
All launched in 1952.

12 " Alkai " Class

ALKAI ALULU AMPIS ANKANG ANTANG ARYAT
ALLAP AMPOK ANDIS ANKLOENG AROKWES ATTAT

Displacement: 143 tons (247 tons *full load*)
Dimensions: 124½×18½×5¼ feet
Guns: 1—37 mm. 4 M.G.
Machinery: Enterprise Diesel engine. B.H.P.: 400-450=12 kts.
Complement: 20

Notes
Built in the Netherlands. *Ampok* and *Alkai* were shipped to Indonesia on 17 Mar. 1950

3 Ex-U.S. SC Type

BHAYAMKARA I BHAYAMKARA II BHAYAMKARA III

Displacement: 116 tons (trials), (148 tons *full load*)
Dimensions: 107½ (*w.l.*), 110⅜ (*o.a.*)×17×6½ feet
Machinery: Diesel: B.H.P.: 800=15·5 kts.

Notes
Former United States submarine chasers of the 110 ft. SC type. Refitted by Korody Marine Corporation. Operated by the Indonesian Marine Police. A photograph of this type appears in the 1954-55 to 1960-61 editions.

MERBABU (ex-*Merbaboe*) **RINDJANI**

Displacement: 80 tons
Dimensions: 74½×14½×5 feet
Machinery: Diesel. B.H.P.: 135=10 kts.
Complement: 20

Notes
Diampea, launched in 1940, is reported to have been renamed (113 tons *gross*, 130½×18¾×6½ feet, diesel machinery, B.H.P.: 360=10 kts., crew 10).

SEAWARD DEFENCE CRAFT

25 Ex-HDML Patrol Boat Types

PP 01	**PP 06**	**PP 011**	**PP 016**	**PP 021**
PP 02	**PP 07**	**PP 012**	**PP 017**	**PP 022**
PP 03	**PP 08**	**PP 013**	**PP 018**	**PP 023**
PP 04	**PP 09**	**PP 014**	**PP 019**	**PP 024**
PP 05	**PP 10**	**PP 015**	**PP 020**	**PP 025**

Displacement: 46 tons *standard* (54 tons *full load*)
Dimensions: 72×16×5½ feet
Guns: 1—37 mm., 2—20 mm. Oerlikon M.G.
Machinery: 2 diesels. 2 shafts. B.H.P.: 300=11 kts.
Complement: 10

Notes
All ex-Netherlands patrol boats. Built in 1943-46. Formerly British HDML type *RP* 109, *RP* 111, *RP* 112, *RP* 114 and *RP* 118 (ex-*HDML* 1451, *HDML* 1472, *HDML* 1473, *HDML* 1454 and *HDML* 1449).

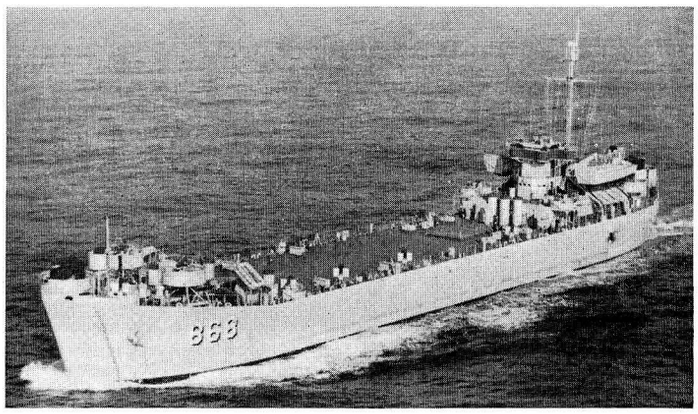
Displacement: 44 tons *standard* (56 tons *full load*)
Dimensions: 62 (*o.a.*)×18½×4 feet
Guns: 1—20 mm. AA., 1 M.G.
Machinery: 1 diesel. B.H.P.: 165=10 kts.
Complement: 10

Notes
Built in 1945-46. Former American Higgins type motor launches, later Netherlands *RP* 120, *RP* 121, *RP* 122, *RP* 124, *RP* 125, *RP* 127, *RP* 128, *RP* 130, *RP* 134 and *RP* 136, transferred to Indonesia in 1950.

Displacement: 54 tons
Guns: 1—40 mm. AA., 2—20 mm. AA.
A/S weapons: 8 D.C.T.
Machinery: Speed=11 kts.
Complement: 10

Notes
Former Netherlands motor launch *RP* 138, transferred by the Royal Netherlands Navy n 1950. A photograph of this type appears in the 1951-52 to 1960-61 editions.

LANDING SHIPS



TELUK LANGSA 1961, *Indonesian Navy, Official*

10 Ex-U.S. LST " 511-1152 " Type

TANDJUNG NUSANIVE (ex-U.S.S. *Lawrence County, LST* 887) Ex-U.S.S. **LST 616**
TANDJUNG RADJA (ex-U.S.S. *Russell County, LST* 1090) Ex-U.S.S. **LST 652**
TELUK BAJUR, LST 870 (ex-U.S.S. *LST*) Ex-U.S.S. **LST 657**
TELUK KAU, LST 871 (ex-U.S.S. *LST*)
TELUK LANGSA, LST 868 (ex-U.S.S. *Solano County, LST* 1128)
TELUK MENADO LST 872 (ex-U.S.S. *LST*)
TELUK WADJO, LST 860 (ex-U.S.S. *LST*)

Displacement: 1,653 tons *standard*, 2,366 *beaching*, 3.960 *trials* (4,080 tons *full load*)
Dimensions: 316 (*w.l.*), 328 (*o.a.*)×50×14 (*max.*) feet
Guns: 7—40 mm. AA., 2—20 mm. AA.
Machinery: General Motors diesels. 2 shafts. B.H.P.: 1,700=11·6 kts.
Oil fuel: 600 tons
Radius: 7,200 miles at 10 kts.
Cargo capacity: 2,100 tons
Complement: 119 (accommodation for 266)

Notes
Former American tank landing ships of the 511-1152 series. *Teluk Langsa* was transferred to Indonesia by the United States under the Mutual Defense Assistance Program at Seattle, Washington, on 31 Mar. 1960. (Indonesia announced that she was to acquire this ship from the United States on 27 Feb. 1959). Six sister ships were acquired in 1961. Three more, LST 616, 652 and 657, formerly in reserve in Japan, were acquired later in 1961 under MAP.

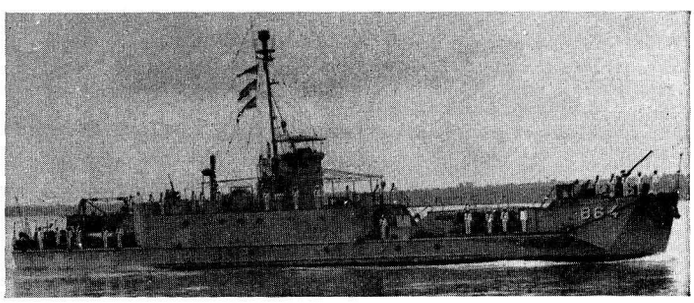
1 Japanese Type

TELUK AMBOINA, LST 869

Displacement: 2,200 tons *standard* (4,800 tons *full load*)
Dimensions: 327×50×25 feet
Guns: 2—85 mm., 4—40 mm.
Machinery: MAN diesels. 2 shafts. B.H.P.: 3,000=13·1kts.
Oil fuel: 1,200 tons
Radius: 4,000 miles at 13·1 kts.
Complement: 88 (accommodation for 300)

Notes
Built in Japan. Launched on 17 Mar. 1961 and transferred to the Indonesian Navy in June 1961.

LANDING CRAFT



AMAHAI 1961, *Indonesian Navy, Official*

3 Ex-U.S. LCI Type

AMAHAI (ex-*Tropenvogel, LCI* 467) **MARICH** (ex-*Zeemeeuw*)
PIRU (ex-*Zeearend, LCI* 420)

Displacement: 250 tons *standard* (381 tons *full load*)
Dimensions: 158×23×7 feet
Guns: 1—37 mm., 2 Vickers M.G.
Machinery: G.M. (Super High Speed Diesel). B.H.P.: 1,800=15 kts.
Complement: 60

Notes
Former United States infantry landing craft. Turned over from the Netherlands East Indies Government on the formation of the Indonesian Navy in 1950. Another photograph appears in the 1951-52 to 1957-58 editions. Pennant Nos. 864, 866 and 868, respectively. Sister ships *Baruna* (ex-*Jjsvogel, LCI* 948) and *Namlea* (ex-*Stormvogel*) *LCI* 588, were removed from the effective list and used as pilot ship and light ship, it was officially stated in 1961.

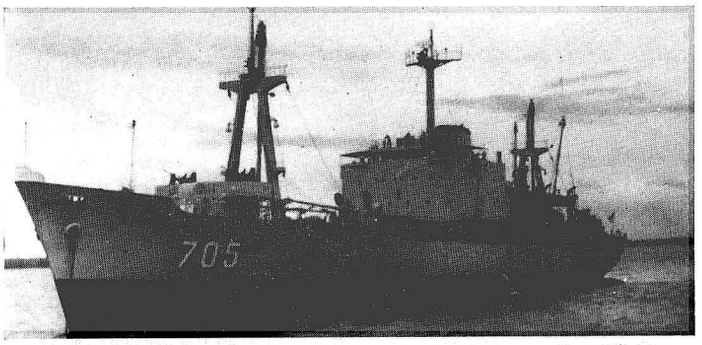
3 Ex-Yugoslavian LCT Type

TELUKKATURAI TELUKWEDA TELUKWORI

Displacement: 110 tons *standard* (250 tons *full load*)
Dimensions: 166×21½×5½ feet
Guns: 1—40 mm., 2—20 mm.
Machinery: HSA Sweuse diesel. 2 shafts. B.H.P.: 375=7 kts.
Oil fuel: 6 tons
Complement: 15

Notes
Transferred from Yugoslavia to the Indonesian Navy on 1 Nov. 1958. Pennant Nos. 862 861 and 863, respectively.

SUBMARINE PARENT SHIP



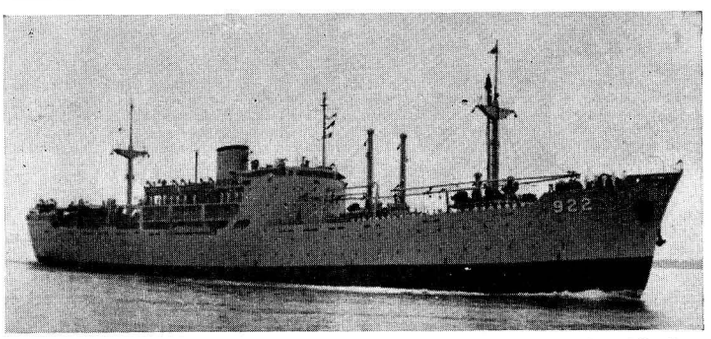
MULTATULI 1962, *Indonesian Navy, Official*

MULTATULI

Displacement:	3,220 tons
Dimensions:	338 (*p.p.*), 365½ (*o.a.*) × 52½ × 23 feet
Guns:	1—85 mm., 4—40 mm. (single mountings)
Machinery:	B. & W. diesel. B.H.P.: 5,500=18½ kts. (*max.*), 16 kts. cruising
Oil fuel:	1,400 tons
Radius:	6,000 miles at 16 kts.
Complement:	134

Built in Japan by Ishikawajima-Harima Heavy Iudustrus Co., Ltd., as a submarine tender. Launched on 15 May 1961. Delivered to Indonesia in Aug. 1961. Pennant No. 476. Flush decker. Capacity for replenishment at sea (fuel oil, fresh water, provisions, ammunition, naval stores and personnel). Medical and hospital facilities. Equipment for supplying compressed air, electric power and distilled water to submarines. Air conditioning and mechanical ventilation arrangements for all living and working quarters.

TRANSPORTS



MORATAI 1961, *Indonesian Navy, Official*

HALMAHERA (ex-*Bau Masepe*) **MOROTAI** (ex-*Sawega*)

Displacement:	5,614 tons *standard* (4,830 tons *full load*)
Dimensions:	435½ × 58 × 12⅔ feet
Guns:	1—3 inch, 4—40 mm., 4—20 mm.
Machinery:	B. & W. diesel. B.H.P.: 4,600=12 kts.
Oil fuel:	990 tons
Complement:	116

Notes
Transferred to the Indonesian Navy on 23 Nov. 1957. Pennant Nos. 921 and 922.

BANGGAI (ex-*Biscaya*) **NUSA TELU** (ex-*Casa Blanca*)

Measurement:	750 tons
Dimensions:	168 × 27⅝ × 7¾ feet

Notes
Dual purpose troopship and cargo ships. Renamed in 1961. Pennant Nos. 925 and 924.

TRAINING SHIPS

NANUSA

Displacement:	14,320 tons
Dimensions:	441⅔ × 58½ × 26½ feet
Guns:	1—3 inch, 1—40 mm., 2—37 mm., 4—20 mm., 6—12·7 mm. M.G.
Machinery:	Triple expansion. 1 shaft. I.H.P.: 2,800=9 kts.
Boilers:	3
Complement:	100 (accommodation for 350 ratings under training)

Notes
Transferred to the Indonesian Navy in 1958.

DEWARUTJI

Displacement:	810 tons *standard* (1,500 tons *full load*)
Dimensions:	191½ (*o.a.*), 136½ (*pp.*) × 31½ × 13⅞ feet
Machinery:	MAN diesel engine. B.H.P.: 600=10·5 kts.
Complement:	110 (32+78 midshipmen)

Notes
Training ship for Indonesian Navy, built in Germany by H. C. Stülcken & Sohn, Hamburg. Launched on 24 Jan. 1953. Completed on 9 July 1953. Barquentine of iron construction. Sail area 1305 sq. yds. (1·091 sq. metres). Speed with sails 12·8 kts. A photograph of this ship appears in the 1954-55 to 1960-61 editions.

SURVEYING VESSELS

BURDJAMHAL

Displacement:	1,200 tons
Dimensions:	211⅔ (*o.a.*), 192 (*pp.*) × 33½ × 10 feet
Machinery:	2 Werkspoor diesel engines. B.H.P.: 1,160=10 kts.
Complement:	90

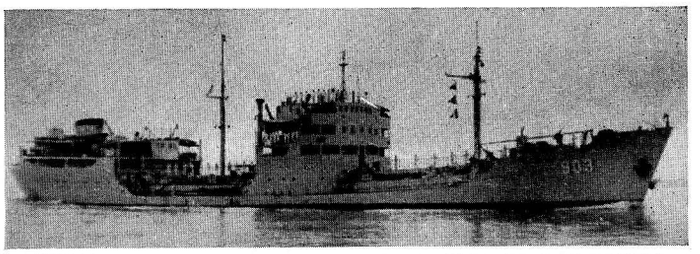
Notes
Built by Scheepswerf De Waal, Zaltbomme. Launched on 6 Sept. 1952. Completed on 6 July 1953. A photograph of this ship appears in the 1954-55 to 1960-61 editions.

SAMUDERA

Measurement:	200 tons *gross*
Dimensions:	125½ × 21½ × 9⅔ feet
Machinery:	Werkspoor diesel engine. B.H.P.: 450

Notes
Built by Ferus Smit, Foxol. Launched on 28 May 1952. Completed on 28 Aug. 1952 Same type as "Bango" class motor patrol vessels, equipped as a laboratory ship. Used for deep sea exploration in Indonesian waters. A photograph of this vessel appears in the 1953-54 to 1960-61 editions.

OILERS



SAMBU 1961, *Indonesian Navy, Official*

2 Ex-U.S.S.R. Type

BUNJU **SAMBU**

Displacement:	2,170 tons *standard* (6,170 tons *full load*)
Dimensions:	350½ × 49½ × 20⅛ feet
Guns:	2—20 mm.
Machinery:	Polar diesel. 1 shaft. B.H.P.: 2,650=10 kts.
Oil fuel:	390 tons
Cargo capacity:	4,739 tons
Complement:	71

Notes
Former Russian tankers transferred to the Indonesian Navy on 29 June 1959. Pennant Nos. 904 and 903.

TJEPU (ex-*Scandus*, ex-*Nordhem*)

Displacement:	1,372 tons
Measurement:	1,042 tons *gross*
Dimensions:	226½ × 34 × 14¼ feet
Machinery:	Polard diesel. 1 shaft. B.H.P.: 850=11 kts.

Notes
Built in Sweden in 1949. Acquired in 1951. Pennant No. 901.

PLADJU

Displacement:	1,412 tons *standard* (4,062 tons *full load*)
Dimensions:	294⅜ × 42¼ × 15½ feet
Guns:	2—20 mm.
Machinery:	Compound engines. I.H.P.: 1,700=10 kts.
Oil fuel:	449 tons
Cargo capacity:	3,132 tons
Complement:	70

Notes
Purchased from Singapore in 1958. Pennant No. 902.

LIGHTHOUSE TENDER

BIDUK

Displacement:	1,250 tons *standard*
Dimensions:	213¼ (*o.a.*) × 39½ × 11½ feet
Machinery:	1 Triple expansion engine. I.H.P.: 1,600=12 kts.
Complement:	66

Notes
Lighthouse Tender, Cable Layer, and multi-purpose naval auxiliary. Built by J. & K. Smit, Kinderijk. Launched on 30 Oct. 1951. Completed on 30 July 1952. A photograph of this ship appears in the 1953-54 to 1960-61 editions.

SALVAGE VESSEL

TRITON (ex-*Matsunoura Maru*)

Displacement:	384 tons
Measurement:	383 tons gross
Dimensions:	182½ × 30 × 15 feet
Machinery:	Triple expansion reciprocating. I.H.P. 700=7 kts.
Complement:	43

Notes
Former Japanese vessel renamed. Launched in 1941. Pennant No. 926.

TUGS

RAKATA (ex-U.S.S. *Menominee*, *ATF* 73)

Displacement:	1,235 tons *standard* (1,675 tons *full load*)
Dimensions:	195 (w.l.), 205 (*o.a.*) × 38½ × 15⅓ (*max.*) feet
Guns:	1—3 inch, 4—40 mm. AA., 2—20 mm. AA.
Machinery:	4 sets of diesels with electric drive. B.H.P.: 3,000=16·5 kts.
Complement:	85

Notes
Former American fleet ocean tug of the "Apache" class. Launched on 14 Feb. 1942. Transferred from the United States Navy to the Indonesian Navy at San Diego in Mar. 1961. Pennant No. 928.

LAMPO BATANG

Displacement:	250 tons
Dimensions:	92½ (*o.a.*), 86⅔ (*p.p.*) × 23½ × 11½ feet
Machinery:	2 sets diesels. B.H.P.: 1,200=11 kts.
Oil fuel:	18 tons
Radius:	1,000 miles at 11 kts.
Complement:	43

Notes
Ocean tug. Built in Japan. Launched in April 1961. Delivered in Nov. 1961. Pennant No. 934.

GANDENG

Measurement:	610 tons *gross*
Machinery:	Speed=7·5 kts.

Notes
Launched in 1940. Reported to have been given a new Indonesian name.

BROMO **TAMBORA**

Displacement:	150 tons
Dimensions:	71⅔ (w.l.), 79 (*o.a.*) × 21⅔ × 9⅔ feet
Machinery:	MAN diesel. 2 shafts. B.H.P.: 600=10·5 kts.
Oil fuel:	9 tons
Radius:	690 miles at 10·5 kts.
Complement:	15

Notes
Harbour tugs. Built in Japan. Launched in June 1961. Delivered in Aug. 1961. Pennant Nos. 936 and 935.

Commander of the Imperial Iranian Navy:
Vice-Admiral Farajolla Rassai.

IRAN (PERSIA)

Naval, Military and Air Attaché in London:
Colonel H. Jahanbani.

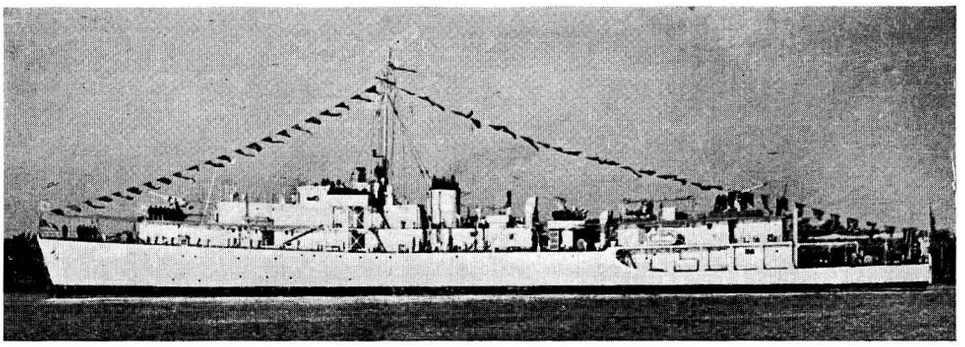
FRIGATE

1 Ex-British "Loch" Type

BABR (ex-H.M.S. *Derby Haven*, ex-*Loch Assynt*)

Builders:	Swan, Hunter & Wigham Richardson, Ltd., Wallsend-on Tyne
Laid down:	11 Feb. 1944
Launched:	14 Dec. 1944
Completed:	2 Aug. 1945
Displacement:	1,650 tons *standard* (2,160 tons *full load*)
Dimensions:	309 × 38½ × 8¾ (*mean*), 14½ (*max.*)
Guns:	2—4 inch, 4—40 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	725 tons
Radius:	9,500 miles at 12 kts.
Complement:	140

Notes
Modified "Loch" class frigate acquired from Great Britain in 1949. "Babr" means "Panther."



BABR — *Imperial Iranian Navy, Official*

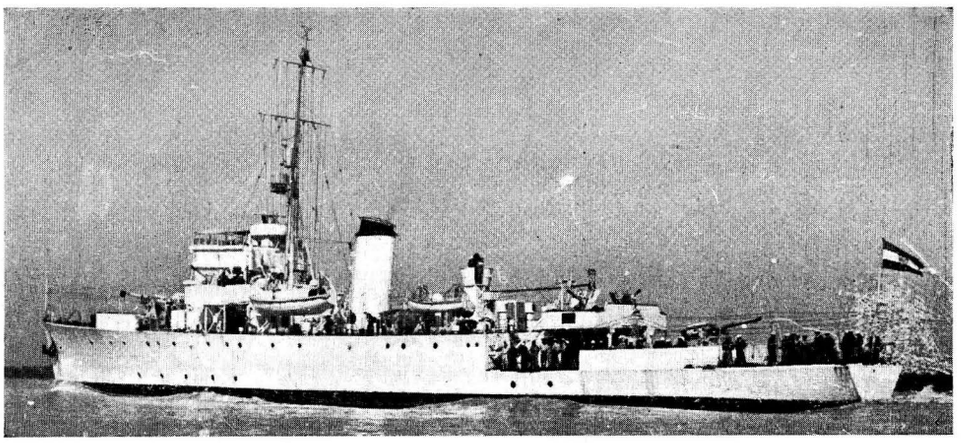
CORVETTE

1 Ex-British "Algerine" Type Escort Minesweeper

PALANG (ex-H.M.S. *Fly*)

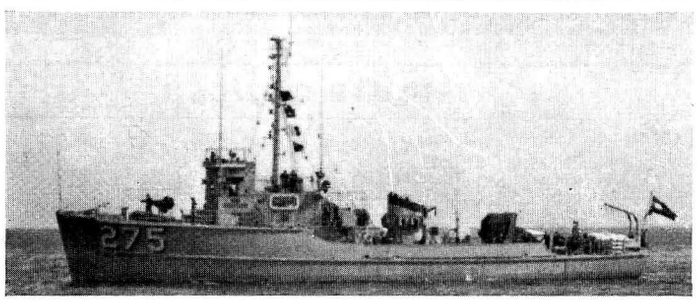
Builders:	Lobnitz & Co., Ltd., Renfrew
Laid down:	6 Oct. 1941
Launched:	1 June 1942
Completed:	20 Oct. 1942
Displacement:	1,040 tons *standard* (1,235 tons *full load*)
Dimensions:	225 (*o.a.*) × 35½ × 13 feet
Guns:	2—4 inch, 4—40 mm. AA. 2 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,000=16·5 kts.
Boilers:	2, of 3-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 10 kts.
Complement:	85

Notes
Former "Algerine" class ocean minesweeper and escort vessel acquired from Great Britain in 1949. "Palang" means "Tiger."
U.S. Navy hull numbers PF 103 and PF 104 are building in U.S. for transfer to Iran under MAP.



PALANG — 1957 *Imperial Iranian Navy, Official*

COASTAL MINESWEEPERS



SHAHBAZ — 1960, *A. & J. Pavia*

4 Ex-U.S. "Bluebird" Class, MSC Type

SHAHBAZ (ex-U.S.S. *MSC 275*)
SHAHROKH (ex-U.S.S. *MSC 276*)
SIMORGH (ex-U.S.S. *MSC 291*) (ex U.S.S. *MSC 293*)

Displacement:	320 tons *light* (370 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 28 × 8½ feet
Guns:	2—20 mm.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 880=13 kts.
Oil fuel:	25 tons
Radius:	2,500 miles at 10 kts.
Complement:	40 (4 officers, 2 midshipmen, 34 men)

Notes
Coastal motor minesweepers of wooden construction. *Shahbaz* and *Shahrokh* were built by Bellingham Shipyards Co. *Shahbaz* was launched on 22 Nov. 1958. Both transferred from the U.S.A. to Iran under the Mutual Defense Assistance Program at Seattle, Wash., *Shahbaz* on 9 Sep. 1959 and *Shahrokh* on 16 Nov. 1959. "Shahbaz" means Eagle and "*Shahrokh*" means Bird of Prey. Light minesweepers from the U.S.A. are being delivered under a phased 1960 programme. *Simorgh* (pennant No. 33), built by *Tacoma* Boatbuilding Co., Tacoma, Washington, and launched on 3 Mar. 1961 was transferred under MAP in 1961. MSC 293, is being built by Petersen Builders, Inc., Sturgeon Bay, Wisconsin, for transfer to Iran under MAP.

GUNBOATS

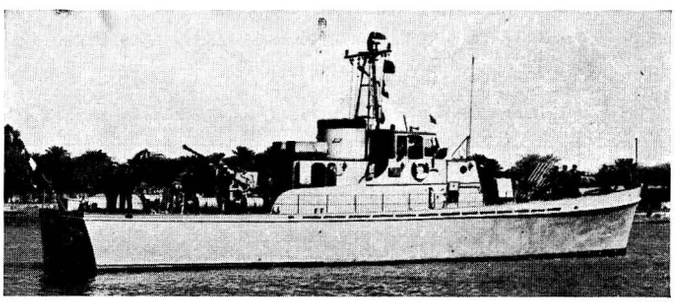
2 Ex-U.S. LSIL Type

HENGAM (ex-French *LSIL* 9037, ex-U.S.S. *LSIL* 768) — Ex-U.S.S. **LSIL 710**

Displacement:	209·2 tons *light* (387 tons *full load*)
Dimensions:	153 (*w.l.*), 159 (*o.a.*) × 23¾ × 5¾ (*max.*) feet
Guns:	4—20 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 2,320=14·4 kts.
Complement:	40

Notes
Former American Landing Ships, Infantry, Large, built in 1944. LSIL 768 was ceded to France in 1953 by the United States for service in Indo-China, given back to the U.S.A. in 1957 and then transferred to Iran under the Mutual Defense Assistance Program. LSIL 710 was loaned to Iran by the United States in 1959

PATROL BOATS



KEYVAN — 1957, *Official*

4 Ex-U.S. Coast Guard Type

KEYVAN	**TIRAN**
Displacement:	85 tons *standard* (107 tons *full load*)
Dimensions:	90 (*pp.*), 95 (*o.a.*) × 20¼ × 6¾ (*max.*) feet
Guns:	1—40 mm AA.
A/S weapons:	8—7·2 inch rockets, 8—300 lb. depth charges
Machinery:	4,600 H.P. Cummins diesels. 2 shafts. B.H.P.: 2,200=19·8 to 21 kts. (*max.*)
Radius:	1,500 miles cruising range
Complement:	15

Notes
Keyvan was built in the United States in 1955. She was delivered to Iran on 14 Jan. 1956. For service in the Caspian Sea. Pennant No. MDA 1. *Tiran* was built by the U.S. Coast Guard at Curtis Bay, Maryland, and transferred to Iran early in 1957 under the Mutual Defence Assistance Program. Two more 85-ton patrol craft were received from the U.S.A. in 1959, it is officially stated.

MOTOR LAUNCHES

3 "Babolsar" Class

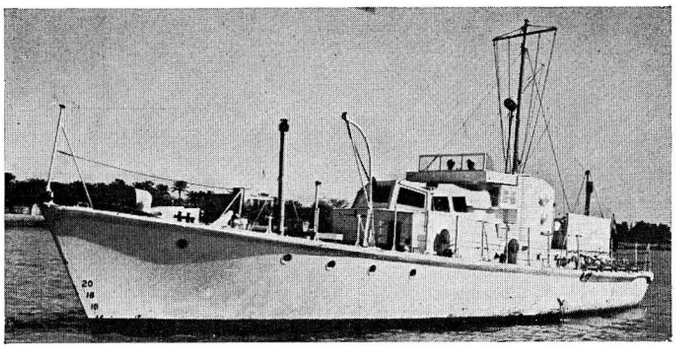
BABOLSAR	**GORGAN**	**SEFIDROUDE**
Displacement:	28 to 32 tons	
Dimensions:	68¾ × 12½ × 5½ feet	
Guns:	1—47 mm. (Skoda), 1 M.G.	
Machinery:	2 Krupp diesels. 2 shafts. B.H.P.: 300=14 kts.	

Notes
Built in 1935 by Cant. Nav. Riuniti, Palermo, Italy. Employed in the Caspian Sea.

6 "Mah" Class

MAHNAVI-HAMRAZ	**MAHNAVI-VAHEDI**	**MORVARID**
MAHNAVI-TAHERI	**MARDJAN**	**SADAF**
Displacement:	10 tons	
Dimensions:	40 × 11 × 3¾ feet	
Guns:	M.G.	
Machinery:	2 G.M. diesels	

SEAWARD DEFENCE CRAFT



ASALON 1957, *Official*

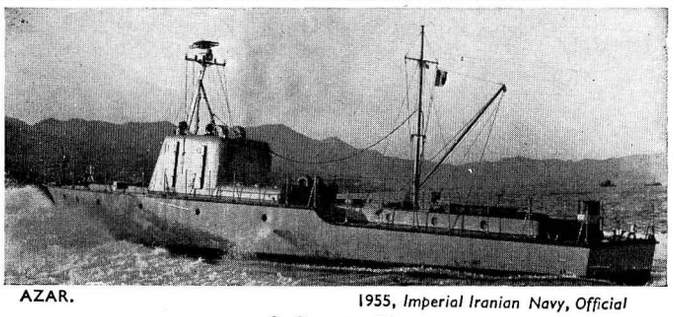
2 Ex-British HDML Type

ASALON (ex-*SML* 323, ex-*ML* 1081)
TAHMADOU FDB 65 (ex-*FDB* 58, ex-*SDML* 1389)

Displacement:	46 tons *standard* (58 tons *full load*)
Dimensions:	72 × 16 × 5 feet
Guns:	8 M.G.
Machinery:	Diesel. B.H.P.: 320 = 12 kts.
Complement:	10

Notes
Former British motor launches of the harbour (seaward) defence type. *SML* 323 (last employed on survey duties) was transferred from the British Navy to the Iranian Navy at Khorramshahr on 21 June 1956. Employed as despatch boats.

COAST GUARD CUTTERS



AZAR. 1955, *Imperial Iranian Navy, Official*

9 Spezia Type

AZAR **DARAKHSH** **PEYKAN** **TONDAR** **TOUSAN**
ČHAHAB **NAVAK** **TONDBAD** **TOUFAN**

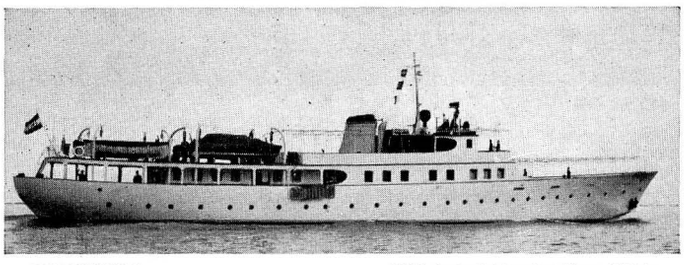
Displacement:	65 tons *standard* (90 tons *full load*)
Dimensions:	90 × 16 × 9 feet
Guns:	M.G.
Machinery:	2 diesels. Speed = 22 kts.

Notes
Built by Cant. Nav. I.N.M.A., La Spezia. Removed from the Navy List in 1958 and transferred to the Coast Guard.

2 Ex-MTBs

Note
The two ex-air/sea rescue craft (ex-motor torpedo boats) were handed over to the Coast Guard in 1953.

IMPERIAL YACHT



CHAHSAVAR 1958, *Imperial Iranian Navy, Officia*

CHAHSAVAR

Displacement:	530 tons
Dimensions:	176½ × 25½ × 10½ feet
Machinery:	2 Sets Diesels by Gebr. Stork of Hengelo. B.H.P.: 1,300 = 15 kts.

Notes
Built by N.V. Boele's Scheepwerven, Bolnes, Netherlands. Launched in 1936. In Caspian Sea.

OILER

HORMUZ

Displacement:	1,250 tons *standard* (1,700 tons *full load*)
Dimensions:	171¼ (*w.l.*), 178½ (*o.a.*) × 32¼ × 14 feet
Machinery:	1 Ansaldo Q 370, 4-cycle diesel
Oil fuel:	25 tons

Notes
Built by Cantiere Castellamare di Stabia. Cargo oil capacity 5,000 to 6,000 barrels. Pennant No. YO 247. Photograph in the 1957-58, 1958-59 and 1959-60 editions.

TENDER

SIRRY (ex-*MFV* 1513)

Length:	90 feet

Notes
Purchased from Great Britain in 1949. Rate " Fire Extinguishing Boat ".

TUG

YADAK BAR (ex-*Neyrou*)

Displacement:	226 tons
Dimensions:	81 (*pp.*), 88½ (*o.a.*) × 22 × 10 feet
Guns:	2 M.G.
Machinery:	Triple expansion. I.H.P.: 600 = 11 kts.

Note
Built by Cant. Nav. Riuniti, Ancona. Launched on 9 Dec. 1944. In Persian Gulf.

IRAQ

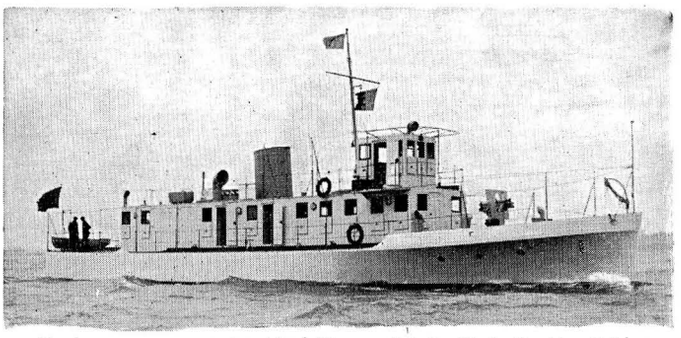
MOTOR TORPEDO BOATS

12 Ex-U.S.S.R. Type

Displacement:	50 tons
Dimensions:	82 × 20 × 6 feet
Guns:	4—13 mm. AA. M.G.
Tubes:	2—21 inch
Machinery:	Speed = 40 kts.

Notes
Presented by the U.S.S.R. A total of twelve " P-6 " class motor torpedo boats have been delivered by the U.S.S.R. to Iraq, of which two were received in 1959, four in Nov. 1960, and six in Jan. 1961. Some remain non-operational.
Six small patrol boats are also reported to have been delivered by the U.S.S.R.

PATROL BOATS



No. 1 *courtesy John I. Thornycroft & Co. Ltd. Southampton, Builders*

4 Thornycroft Type

No. 1 **No. 2** **No. 3** **No. 4**

Displacement:	67 tons
Dimensions:	100 × 17 × 3 feet (*mean*)
Guns:	1—3·7 inch howitzer, 2—3 inch mortars, 4 M.G.
Machinery:	2 Thornycroft 6-cyl. diesels. 2 shafts. B.H.P.: 280 = 12 kts.

Notes
Protected by bullet-proof plating. All built by John I. Thornycroft & Co. Ltd., Woolston, Southampton, and launched in 1937. The first boat was launched on 16 Apr. 1937. All were completed and delivered by the summer of 1937.

New Construction
Eight patrol boats of 36 feet in length with a diesel of 125 B.H.P. and four 21 ft. pilot despatch launches with a diesel of 40 B.H.P. have been built by John I. Thornycroft & Co. for the Irani Ports Administration.

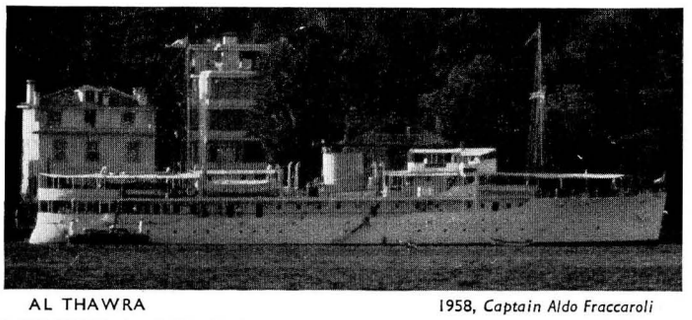
LIGHTHOUSE TENDER

FAISAL I (ex-*Sans Peur*, ex-*Restless*)

Displacement:	1,025 tons
Dimensions:	186 × 29½ × 14½ feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 850 = 13 kts.
Boiler:	1 oil-fired

Notes
Former Royal yacht. Designed by Messrs. G. L. Watson Ltd. Built by John Brown & Co. Ltd., Clydebank. Launched in 1923. Photograph in the 1937 to 1959-60 editions.

PRESIDENTIAL YACHT



AL THAWRA 1958, *Captain Aldo Fraccaroli*

AL THAWRA (ex-*Melike Aliye*)

Displacement:	746 tons
Machinery:	Diesels. 2 shafts. S.H.P.: 1,800 = 14 kts.

Note
This ship was acquired for use as the Royal Yacht before the assassination of King Faisal II in 1958, after which she was renamed *Al Thawra* (The Revolution) instead of *Melike Aliye* (Queen Aliyah).

TUG

ALARM (ex-*St. Ewe*)

Displacement:	570 tons *standard* (820 tons *full load*)
Dimensions:	135 × 30 × 14½ feet
Machinery:	Triple expansion. 1 shaft. I.H.P.: 1,200 = 12 kts.
Boilers:	2 oil-fired

Notes
Former British " Rescue " type tug of the " Saint " class. Built by Murdock & Murray Launched in 1919.

ISRAEL

Administration
Commander-in-Chief of the Israeli Navy:
Commodore Yohai Ben Nun.

Naval, Military and Air Attaché in London:
Colonel D. Hiram.

Mercantile Marine
Lloyd's Register of Shipping:
.71 vessels of 387,618 tons *gross*

DESTROYERS

2 Ex-British "Z" Class

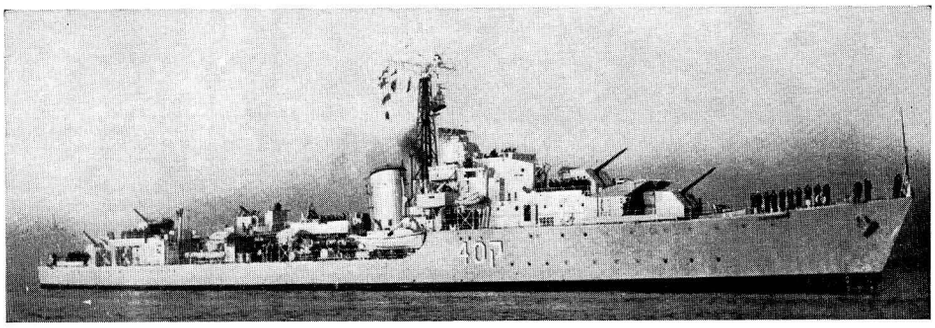
ELATH (ex-H.M.S. *Zealous*) **YAFFO** (ex-H.M.S. *Zodiac*)

	Elath	*Yaffo*
Pennant No.:	40	42
Builders:	Cammell Laird & Co. Ltd., Birkenhead	John I. Thornycroft & Co. Ltd., Southampton
Laid down:	5 May 1942	7 Nov. 1942
Launched:	28 Feb. 1944	11 Mar. 1944
Completed:	9 Oct. 1944	25 Oct. 1944

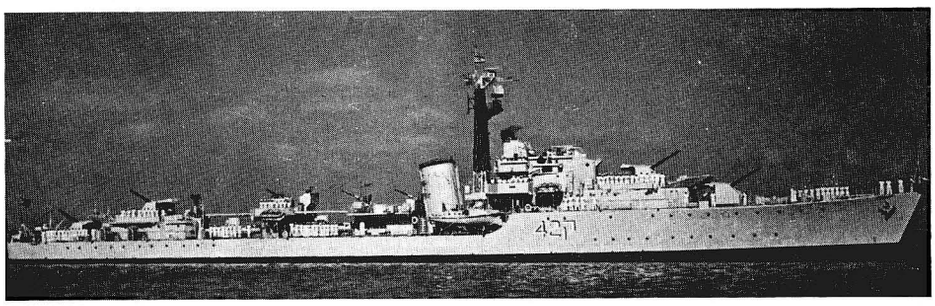
Displacement:	1,710 tons *standard* (2,555 tons *full load*)
Dimensions:	362¾ (*o.a.*) × 35¾ × 16 (*max.*) feet
Guns:	4—4·5 inch d.p., 6—40 mm. AA.
Tubes:	8—21 inch
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. S.H.P.: 40,000=36·75 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	250 officers and ratings

Notes

Purchased from Great Britain. Transferred to Israel on 15 July 1955 in Cardiff Docks. Refitted before going to Israel in 1956, *Elath* by Harland & Wolff in Langton Dock, Liverpool, *Yaffo* by Crichtons in Trafalgar Dock, Liverpool.



ELATH — 1958, *Israeli Navy, Official*



YAFFO — *Israeli Navy, Official*

FRIGATES

1 Ex-Egyptian "Hunt" Class

HAIFA (ex-*Ibrahim el Awal*, ex-*Mohamed Ali el Kebir*, ex-*Mendip*, ex-*Lin Fu*, ex-*Mendip*)

Pennant No.:	38
Builders:	Swan, Hunter & Wigham Richardson, Ltd., Wallsend-on-Tyne
Engineers:	The Wallsend Slipway & Engineering Co. Ltd., Wallsend
Laid down:	10 Aug. 1939
Launched:	9 Apr. 1940
Completed:	12 Oct. 1940
Displacement:	1,000 tons *standard* (1,490 tons *full load*)
Dimensions:	273½ (*pp.*), 280 (*o.a.*) × 20 × 7¾ (*mean*), 14 (*max*) feet
Guns:	4—4 inch, 2—40 mm. AA., 3—20 mm. AA.
A/S weapons:	2 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=27·5 kts.
Boilers:	2, of three-drum type
Oil fuel:	280 tons
Radius:	3,000 miles at 14 kts.
Complement:	190 (officially revised figure)



HAIFA — 1959, *Israeli Navy, Official*

Notes

Originally an escort destroyer, subsequently reclassified as an anti-aircraft frigate, of the British "Hunt" Class, Type I.

This ship, first named *Mendip*, served with the British Navy from Oct. 1940 until May 1948 when she was transferred to the Chinese Navy and renamed *Lin Fu*. She was returned to the British Navy at Hong Kong a year later and reverted to the name *Mendip*, but was transferred to the Egyptian Navy in Nov. 1949 and was first renamed *Mohamed Ali el Kebir* but was again renamed *Ibrahim el Awal* in 1951. She was captured from Egypt off Haifa by Israeli forces on 31 Oct. 1956 and renamed *Haifa*. She was commissioned for service in the Israeli Navy in Jan. 1957.

Recent Disposals

Of the former Canadian "River" type frigates, *Misgav* (ex-H.M.C.S. *Strathadam*) was officially deleted from the naval list in 1961, and Sister ships *Misnak* (ex-H.M.C.S. *Hallowell*) and *Mivtakh* (ex-H.M.C.S. *Violetta*) were sold to the Royal Ceylon Navy in Aug. 1959.

SUBMARINES

2 Ex-British "S" Class

RAHAV (ex-H.M.S. *Sanguine*) **TANIN** (ex-H.M.S. *Springer*)

	Rahav	*Tanin*
Name:	*Rahav*	*Tanin*
Pennant No.:	73	71
Builders:	Cammell Laird & Co. Ltd., Birkenhead	Cammell Laird & Co. Ltd., Birkenhead
Laid down:	10 Jan. 1944	8 May 1944
Launched:	15 Feb. 1945	14 May 1945
Completed:	13 May 1945	2 Aug. 1945

Displacement:	715 tons *standard*, 814 tons *surface*, 1,000 tons *submerged*
Dimensions:	202½ (*pp.*), 217 (*o.a.*) × 23¾ × 10¼ (*mean*) feet
Guns:	1—4 inch
Tubes:	6—21 inch
Machinery:	Diesels. B.H.P.: 1,900=14·7 kts. *surface* Electric motors. H.P.: 1,300=9 kts. *submerged*
Oil fuel:	70 tons
Complement:	57 officers and ratings

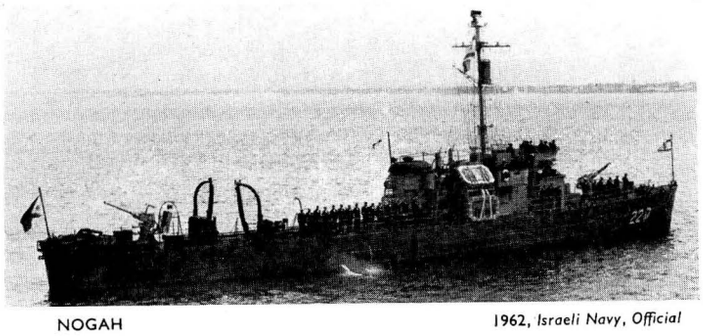


TANIN — 1961, *Skyfotos*

Notes

Former British submarines of the "S" class purchased by Israel in Oct. 1958. *Springer* was handed over to the Israeli Navy at Portsmouth on 9 Oct. 1958 and renamed *Tanin* (Crocodile). Both boats were refitted in Great Britain before delivery to Israel in May 1960 (*Rahav*) and Dec. 1959 (*Tanin*). They are reported to be very handy craft, capable of making a "crash dive" in 30 seconds, and both are fitted with "Snort" mast and sonar domes. A photograph of *Rahav* appears in the 1959-60 to 1961-62 editions.

PATROL VESSEL



NOGAH 1962, *Israeli Navy, Official*

NOGAH (ex-*PC* 16)

Displacement:	295 tons *standard* (450 tons *full load*)
Dimensions:	170 (*pp.*), 173¾ (*o.a.*) × 23 × 7½ (*mean*), 10 (*max.*) feet
Guns:	1—4 inch, 1—40 mm. AA., 3—20 mm. AA.
A/S weapons:	4 D.C T.
Oil fuel:	60 tons
Radius:	5,000 miles at 9 kts.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,764 = 18 kts.
Complement:	70

Notes

Former United States patrol vessel (submarine chaser) of the steel hulled PC type.

MOTOR TORPEDO BOATS



OPHIR 1961, *Israeli Navy, Official*

OPHIR **SHVA** **TARSHISH**

Displacement:	40 tons
Dimensions:	70 × 17 × 5 feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Torpedoes:	2—17·7 inch
Machinery:	High octane petrol engines. Speed 40 kts.

Notes

Motor Torpedo Boats/Gunboats built for the Israeli Navy by Cantieri Baglietto, Varazze, Italy, in 1956-57. Pennant Nos. T 150, 151 and 152, respectively.



PERESS 1961, *Israeli Navy, Official*

AYAH **BAZ** **DAYA** **PERESS** **TAHMASS** **YASOOR**

Displacement:	62 tons *standard*
Dimensions:	85½ (*o.a.*) × 20¾ × 5 feet
Guns:	1—40 mm., 4—20 mm. AA.
Torpedoes:	2—17·7 inch
Machinery:	2 Napier Deltic diesel engines. 2 shafts. B.H.P.: 4,600 = 42 kts
Radius:	600 miles at 29 kts.
Complement:	14 (1 officer, 13 men)

Notes

Built by Chantiers de Meulan, France. Launched in 1950-56. Pennant numbers: T 200, 201, 202, 203, 204, 205. Photographs of T 208 in the 1953-54 to 1957-58 editions, and of T 207 in the 1953-54 to 1960-61 editions.

LILITT **SHALDAGG** **TINSHEMETT**

Displacement:	43 tons *standard*
Dimensions:	70 × 19 × 5 feet
Guns:	1—40 mm., 2—20 mm. AA.
Tubes:	2—18 inch
Machinery:	3 Packard engines. B.H.P.: 4,050 = 40 kts.
Radius:	600 miles at 15 kts.
Complement:	16

Notes

Motor torpedo boats purchased in Great Britain. Built by Vosper, Ltd., Portsmouth, England, in 1942. Pennant Number: *T* 209, *T* 210, and *T* 212.

COAST GUARD CUTTERS



YARDEN 1961, *Israeli Navy, Official*

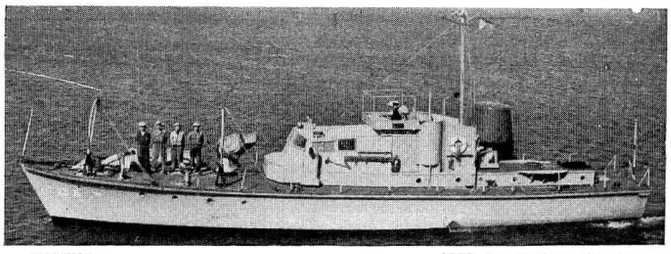
YARDEN **YARKON**

Displacement:	96 tons *standard* (109 tons *full load*)
Dimensions:	100 × 20 × 6 feet
Guns:	2—20 mm. AA.
Machinery:	Diesels. 2 shafts. Speed 22 kts.
Complement:	16

Notes

Coastguard cutters. Both built by Yacht & Bootswerft, Burmester Burg, Germany. *Yarkon* was launched on 25 July 1956 and *Yarden* in 1957. Pennant Nos. 42 (*Yarden*).

SEAWARD PATROL CRAFT



TIRTSA 1955, *Israeli Navy, Official*

DROR (ex-*M* 21) **SAAR** (ex-*M* 35) **TIRTSA**

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 16 × 5½ feet
Guns:	2—20 mm. AA.
A/S weapons:	8 D.C.
Machinery:	2 diesels. 2 shafts. B.H.P.: 320 = 12 kts.
Complement:	12

Notes

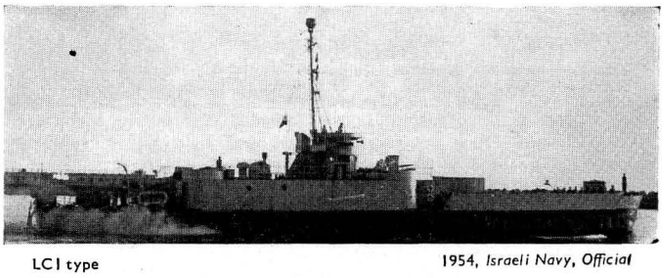
Former British harbour (seaward) defence motor launches. Built in Great Britain in 1943.

Recent Disposals

The former British Fairmile "B" type motor launch *Haportzim* was officially deleted from the Navy list in 1961.

The former United States coast guard cutter *Matzpen* of the sloop type, formerly employed as a training ship and latterly as a depot ship, has been sold for scrap, it was officially stated in 1962.

LANDING CRAFT



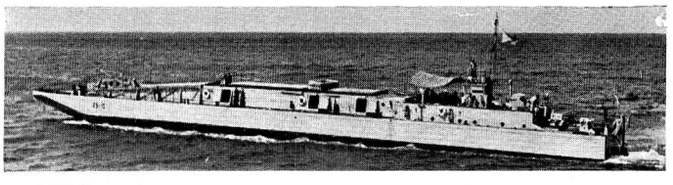
LCI type 1954, *Israeli Navy, Official*

LCI

Displacement:	230 tons *standard* (387 tons *full load*)
Dimensions:	159 × 23 × 5¾ feet
Machinery:	2 diesels. B.H.P.: 1,320 = 14.4 kts.

Notes

Former American vessels of the Landing Craft Infantry stype.



LCT (6) type 1956, *Israeli Navy, Official*

LCT

Displacement:	143 tons *standard* (309 tons *full load*)
Dimensions:	120 × 33 × 4 feet
Machinery:	3 diesels. B.HP.: 675 = 10 kts.

Notes

Reported to be a mixed flotilla of ex-American tank landing craft, including ex-U.S.S. 640 and ex-U.S.S. 673, and ex-British vessels of the LCT (6) type.

LCM

Displacement:	22 tons *standard* (60 tons *full load*)
Dimensions:	50 × 14 × 3¼ feet
Machinery	2 diesels. B.H.P.: 450 = 11 kts.

Notes

Former American vessels of the Landing Craft Mechanised type.

ITALY

Administration

Chief of Naval Staff:
Ammiraglio di Squadra Corso Pecori Giraldi.

Deputy Chief of Naval Staff:
Ammiraglio di Squadra Alessandro Michelagnoli.

Commander-in-Chief Naval Forces:
Ammiraglio di Squadra Ernesto Giuriati.

Naval Attaché in London:
Captain Eugenio Manca di Villahermosa, It. N.

Naval Construction Programme

It is officially stated that the Naval Programme is in course of being carried out as outlined in the various notes which give details of New Construction.

Studies are continuing for the design of one nuclear powered submarine ("Marconi").

Personnel

1962: 41,000 officers and ratings

Navy Estimates

1963: 123,900,000,000 Lire

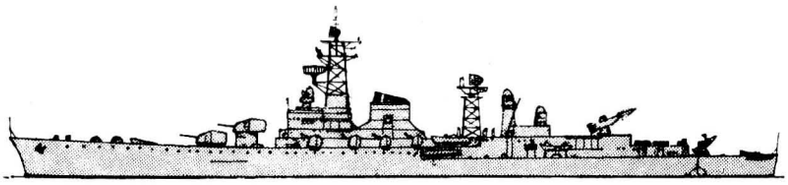
Mercantile Marine

Lloyd's Register of Shipping:

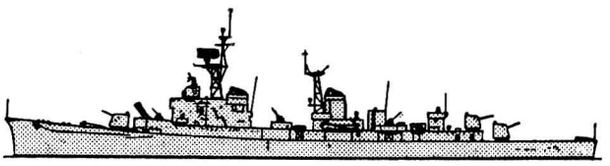
1,353 vessels of 5,319,334 tons *gross*

Silhouettes

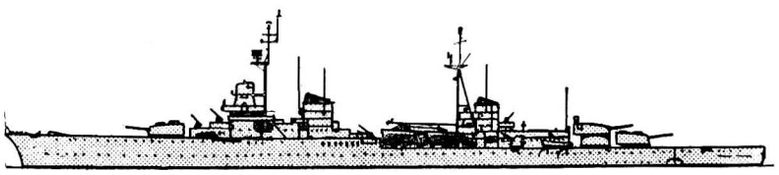
Scale: 150 ft. = 1 inch



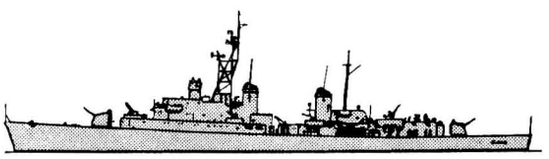
GIUSEPPE GARIBALDI



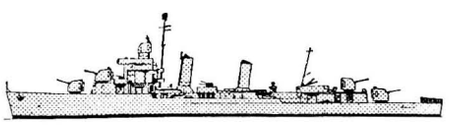
SAN GIORGIO, SAN MARCO



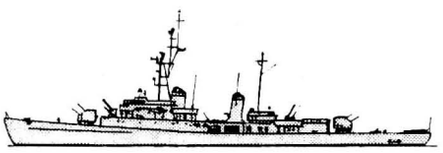
RAIMONDO MONTECUCCOLI



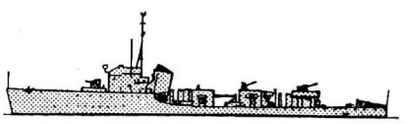
IMPETUOSO, INDOMITO



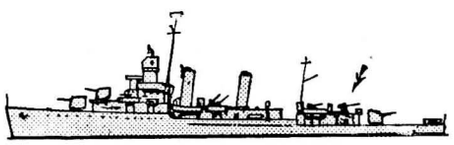
ARTIGLIERE



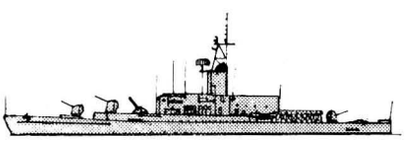
CENTAURO *Class*



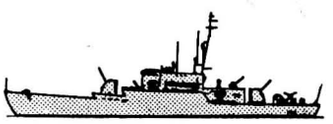
LIBRA, SAGITTARIO



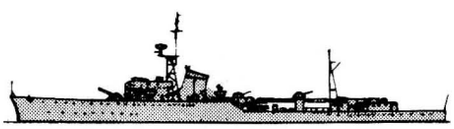
AVIERE



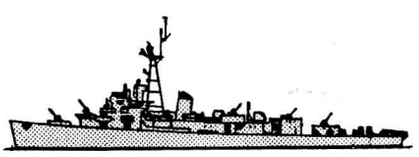
BERGAMINI *Class*



ALBATROS *Class*



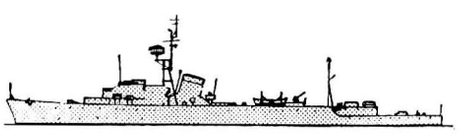
CARABINIERE



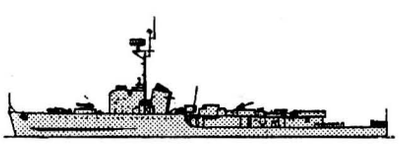
ALTAIR *Class*



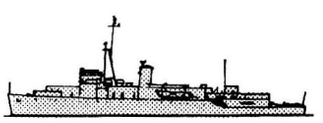
APE *Class*



GRECALE



ORIONE, ORSA



ALABARDA

GUIDED MISSILE CRUISER (CG)

1 New Construction
(Improved "Doria" Class)

VITTORIO VENETO

Displacement: 8,000 tons *standard* (8,700 tons *full load*), official figures

Dimensions: Length: 511 (*pp.*), 548 (*o.a.*) feet
Beam: 62¼ (*extreme*) feet
Draught: 16½ (*max.*) feet

Guns: 8—3 inch, 62 cal. AA., 2—4·1 inch (105 mm.) triple star rocket launchers

Guided Missiles: "Terrier" battery forward. 1 launcher (twin mounting)

Tubes: 2 triple for A/S torpedoes

Aircraft: Six HSS—1/N Sikorsky helicopters

Machinery: Geared turbines. 2 shafts. S.H.P.: 72,500 = 31 kts. (designed speed)

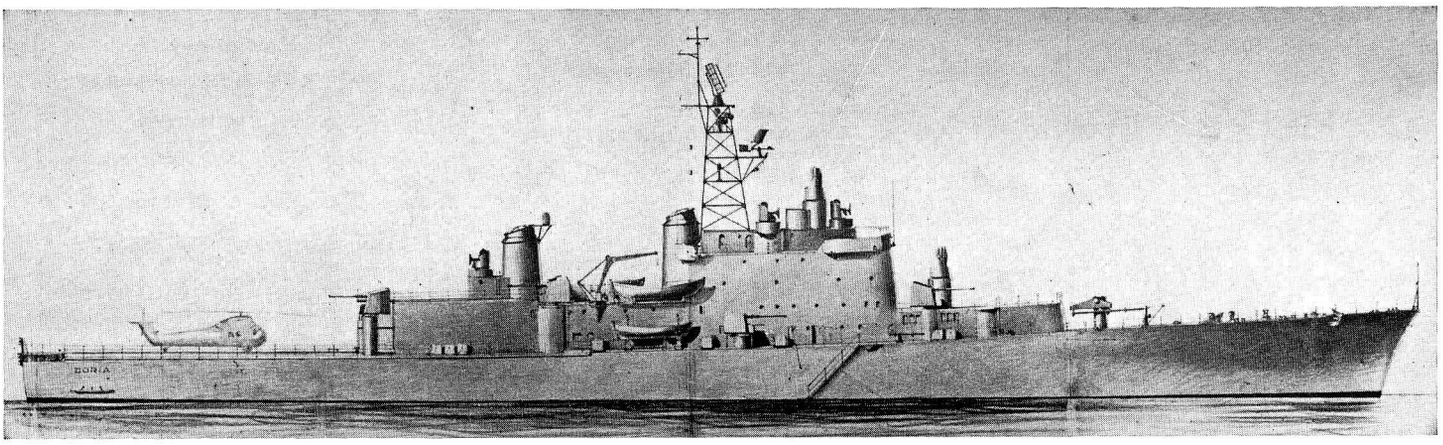
Boilers: 4 Foster-Wheeler

Complement: 500

General Notes

Developed from the "Doria" class. To be laid down in 1962. Will have improved facilities for anti-submarine helicopters.

GUIDED MISSILE ESCORT CRUISERS (DLG)



" Doria " Class (revised official drawing)

1959, *Italian Navy, Official*

2 New Construction. "Doria" Class (officially rated as *Incrociatori di Scorta*)

ANDREA DORIA **CAIO DULIO**

Displacement:	6,000 tons *standard* (6,500 tons *full load*)
Dimensions:	Length: 472½ (*pp.*), 483¼ (*o.a.*) feet. Beam: 56½ feet. Draught: 16 feet
Guns:	8—3 inch, 62 cal. AA. (see *Gunnery Notes*), 2—4·1 (105 mm.) triple star rocket launchers
Guided missiles:	" Terrier " battery forward. 1 launcher (twin mounting)
Tubes:	2 triple for A/S torpedoes
Aircraft:	3 Sikorsky S.588 type heavy A/S helicopters
Machinery:	Geared turbines. 2 shafts. S.H.P.: 70,000=31 kts. (designed speed)
Boilers:	4 Foster-Wheeler
Complement:	450

General Notes

Escort cruisers or destroyer leaders of an entirely new design, extraordinarily beamy in relation to their length.

Andrea Doria was laid down on 11 May 1958 by Cantieri del Tirreno, Riva-Trigoso, and *Caio Duilio* was laid down on 16 May 1958 by Navalmeccanica. Castellammare di Stabia. Both are expected to be launched in 1962 and operational in 1963-64. *Enrico Dandolo* was to have been laid down under the 1959-60 new construction programme, but instead *Vittorio Veneto* (see previous page) will be laid down during the 1961-62 Financial Year.

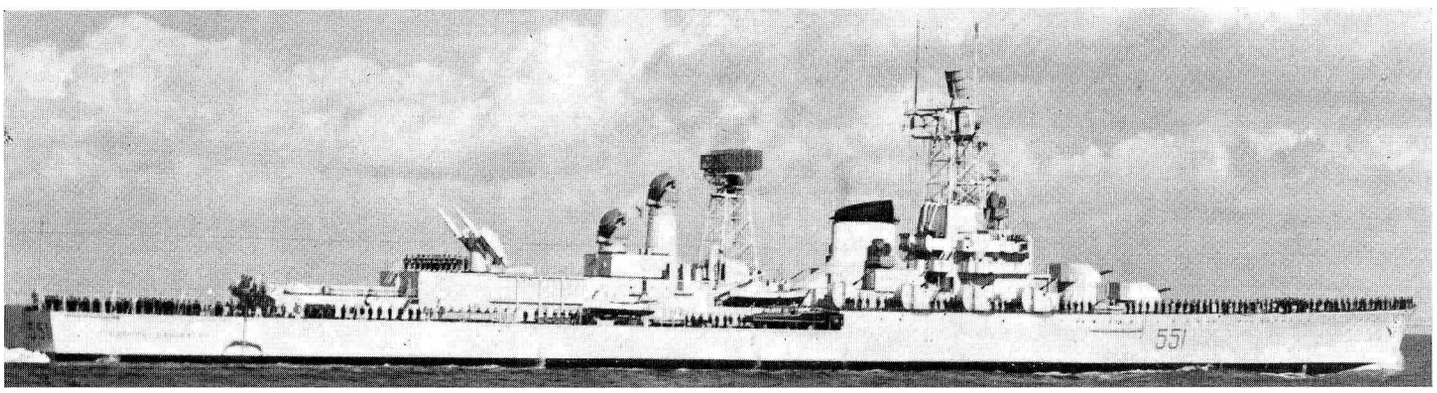
Gunnery Notes

The anti-aircraft battery will include eight 3-inch fully automatic weapons of a new pattern, disposed in single turrets, four on each side amidships abreast the funnels and the bridge. They have a rate of fire of 70 rounds per minute.

Helicopter Notes

Helicopters operate from a large platform aft measuring 98½ feet by 52½ feet (30 by 16 metres).

GUIDED MISSILE LIGHT CRUISER (CLG)



GIUSEPPE GARIBALDI (as completed)

1962, *Italian Navy, Official*

1 Converted "Garibaldi" Class

GIUSEPPE GARIBALDI

Pennant No.:	C 551
Builders:	C. R. dell' Adriatico, Trieste
Laid down:	Dec. 1933
Launched:	21 Apr. 1936
Completed:	Dec. 1937
Converted:	1957-1962

Displacement:	9,802 tons *standard* (11,600 tons *full load*)
Dimensions:	Length: 593 (*w.l.*), 613½ (*o.a.*) feet Beam: 61⅔ feet Draught: 17 (*mean*), 29 (*max.*) feet
Guns:	4—5·3 inch, 45 cal. d.p., 8—3 inch 62 cal. AA. (see *Gunnery Notes*)
Guided missiles:	" Terrier " battery aft. 1 launcher for surface-to-air weapons (twin mounting). 72 missiles carried
Armour:	4½" belt, 2½" deck, 4" turrets, 5" conning tower
Aircraft:	Helicopters
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 85,000=30 kts.
Boilers:	6 of 3-drum type
Oil fuel:	1,700 tons
Radius:	4,500 miles at 20 kts.
Complement:	650

General Notes

Originally a sister ship of the light cruiser *Luigi di Savoia Duca degli Abruzzi* (removed from the effective list in Apr. 1961), she has been converted into a guided missile cruiser. The appearance of the ship has been completely altered with a single large trunked funnel and lattice masts. She is expected to be commissioned for operational service in 1962.

Gunnery Notes

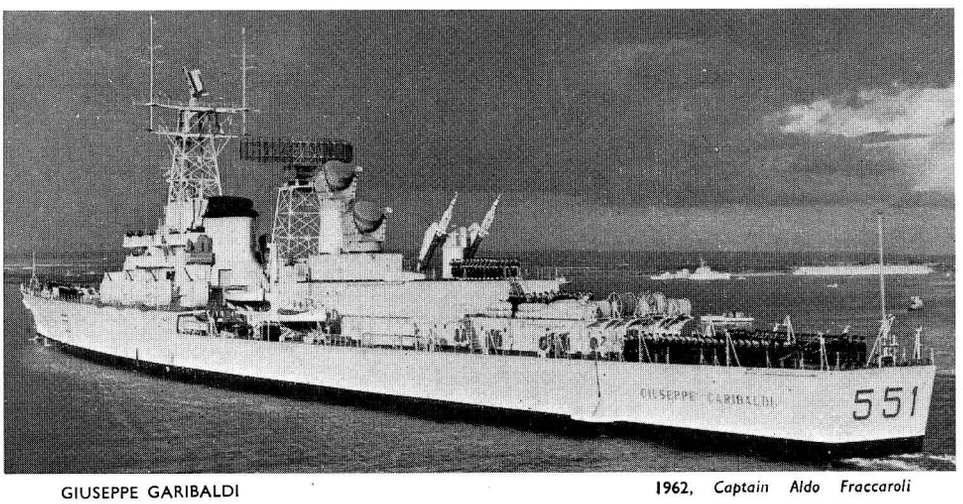
The new armament includes four 5·3 inch dual purpose guns of a new fully automatic model disposed in two twin turrets forward, and an anti-aircraft battery of eight 3-inch fully automatic weapons, also of a new pattern, built by O.T.O., La Spezia, disposed in single turrets, four on each side amidships abreast the funnel and the bridge, with a rate of fire of 57 rounds per minute.

Engineering Notes

On her original trials this ship developed 104,030 S.H.P. and attained a speed of 33·6 kts. During her reconstruction her machinery has been completely refitted.

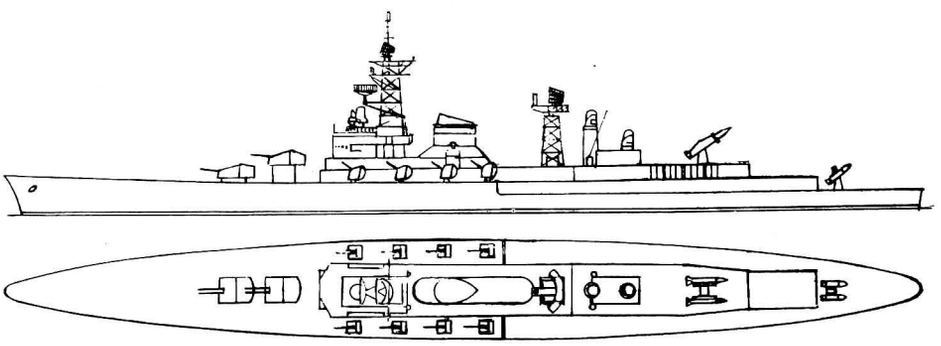
Drawing Notes

Port elevation and plan. Drawn in 1962. Scale: 128 feet =1 inch.

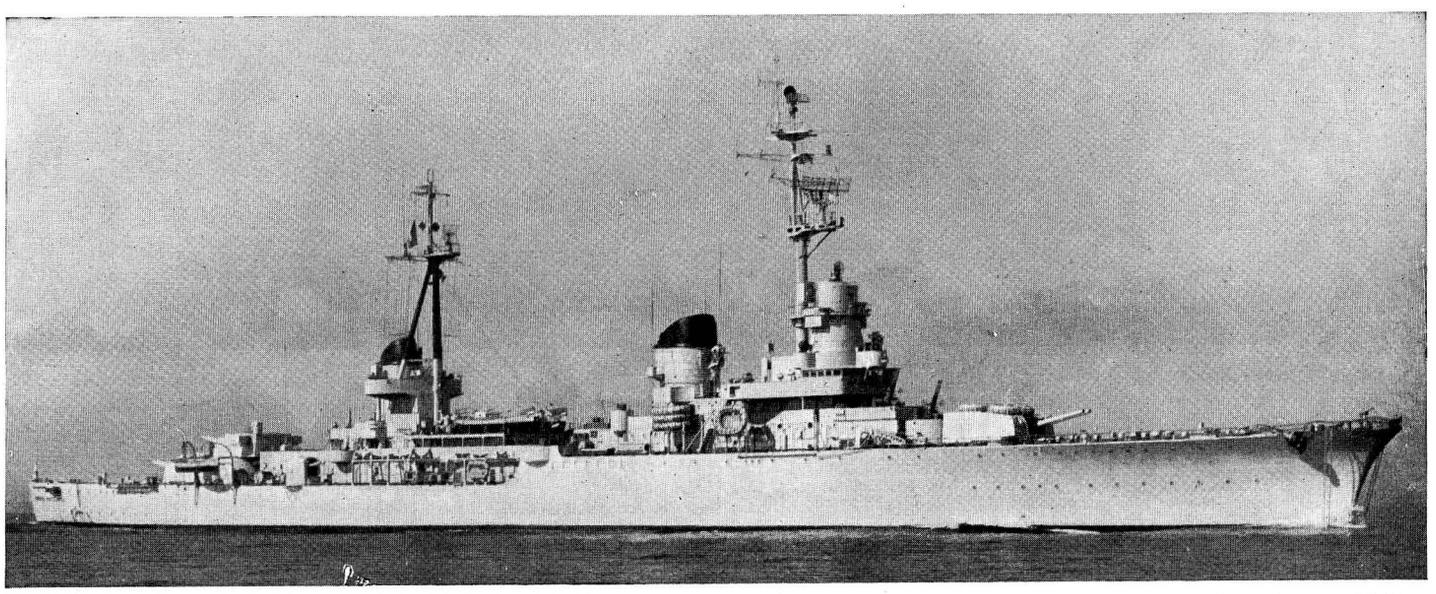


GIUSEPPE GARIBALDI

1962, *Captain Aldo Fraccaroli*



LIGHT CRUISER (CL) Training Ship



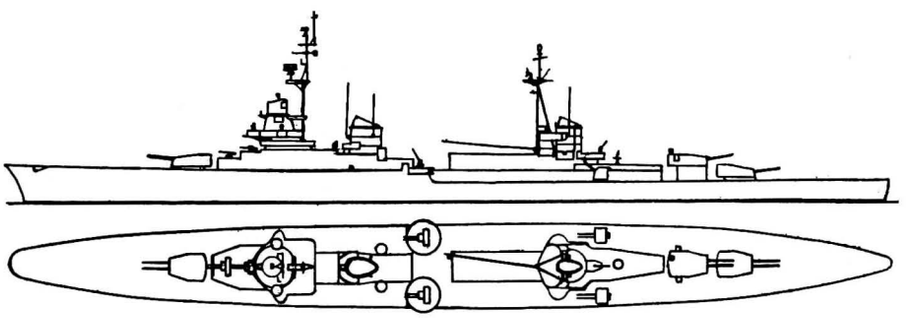
RAIMONDO MONTECUCCOLI

1957, *Italian Navy, Official*

1 "Condottieri" Class

RAIMONDO MONTECUCCOLI

Pennant No.:	C 552
Builders:	Ansaldo, Sestri Ponente
Laid down:	Oct. 1931
Launched:	2 Aug. 1934
Completed:	June 1935
Displacement:	7,675 tons *standard* (8,955 tons *full load*)
Dimensions:	Length: 575¼ (*pp.*), 577 (*w.l.*), 597¾ (*o.a.*) feet. Beam: 54½ feet. Draught: 14¾ feet (*mean*) 29 feet, (*max.*)
Guns:	6—6 inch, 53 cal., 4—3·9 inch, 47 cal. AA., 8—40 mm., 56 cal. AA., 4—20 mm. 70 cal. AA.
Armour:	Thin plating only on turrets and decks but side armour decidedly thicker at waterline
Machinery:	Belluzzo geared turbines. 2 shafts. S.H.P.: 75,000=29 kts. (see notes)
Boilers:	4 Yarrow, of 3-drum type (2 of original 6 boilers removed)
Oil fuel:	1,180 tons
Radius:	2,800 miles at 20 kts.
Complement:	522



General Notes

Raimondo Montecuccoli was begun under the 1930 Programme, but construction was held up pending alterations to plans. Equipped for minelaying. Used as training ship for midshipmen since the summer of 1949.

Torpedo Notes

Her original 4—21 inch torpedo tubes have been removed.

Engineering Notes

On her initial trials she made 39·5 kts. without stores or ammunition on board. Her original rating was 106,000 S.H.P. when she had six boilers, but two of these were removed when she was refitted as a training ship for midshipmen.

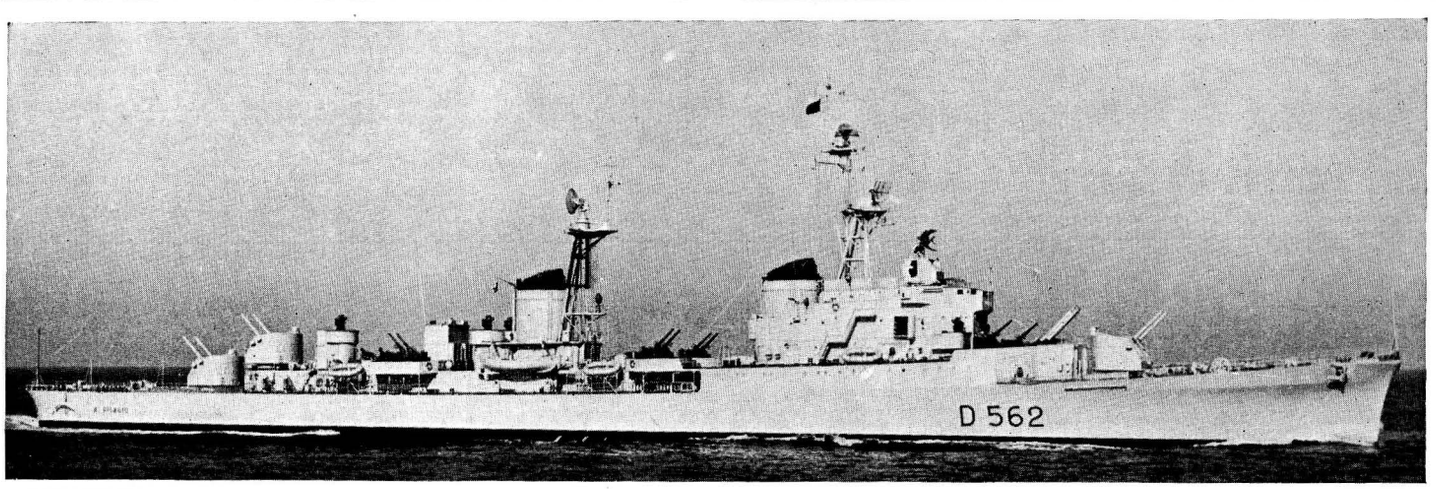
Gunnery Notes

After her refit she retained only six of her original 8—6 inch guns and only 4 of her 3·9 inch guns. "B" turret and "Q" 3·9 inch centre line mounting were removed. Now has an AA. radar set on mainmast and 8—40 mm. Bofors AA. guns added.

Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

DESTROYER LEADERS (ex-Light Cruisers) DL



SAN GIORGIO

1959, *Italian Navy, Official*

2 "San Giorgio" Class (officially rated as *Cacciatorpediniere Conduttori*)

SAN GIORGIO (ex-*Pompeo Magno*)

SAN MARCO (ex-*Giulio Germanico*)

Name:	*San Giorgio*	*San Marco*
Pennant No.:	D 562	D 563
Builders:	Cantieri N. Riuniti, Ancona	Navalmeccanica Castellammare di Stabia
Laid down:	23 Sep. 1939	11 May 1940
Launched:	28 Aug. 1941	20 July 1941
Completed:	24 June 1943	19 Jan 1956

Displacement:	3,950 tons *standard* (5,600 tons *full load*) revised figures
Dimensions:	455¼ (*w.l.*), 466½ (*o.a.*) × 47½ × 21 feet
Guns:	6—5 inch, 38 cal.; 20—40 mm., 56 cal. AA.
A/S weapons:	1 three-barrelled automatic long range depth charge mortar, 4 D.C.T., 1 D.C. rack
Machinery:	Geared steam turbines. 2 shafts. S.H.P.: 100,000 – 38 kts. Sea speed 36 kts.
Boilers:	4 of 3-drum type
Oil fuel:	1,400 tons
Radius:	3,000 miles at 25 kts.
Complement:	430

General Notes

These two vessels were originally built and classed as *Esploratori Oceanici* (Ocean Scouts), then as light cruisers of the Roman Captains (*Capitani Romani*) class. *Giulio Germanico* was sunk by the Germans in Sep. 1943 before completion, refloated in 1947. Both ships converted into fleet destroyers by Cantieri del Tirreno Genova, and Navalmeccanica Castellammare di Stabia. Conversion completed in the autumn of 1955. *San Giorgio* recommissioned 1 July 1955, *San Marco* 20 Feb. 1956. Re-rated as *Esploratori* (scouts) in 1957, and as *Cacciatorpediniere Conduttori* (destroyer leaders) in 1958.

Engineering Notes

During sea trails in 1955 these ships reached 40 and 41 knots, respectively.

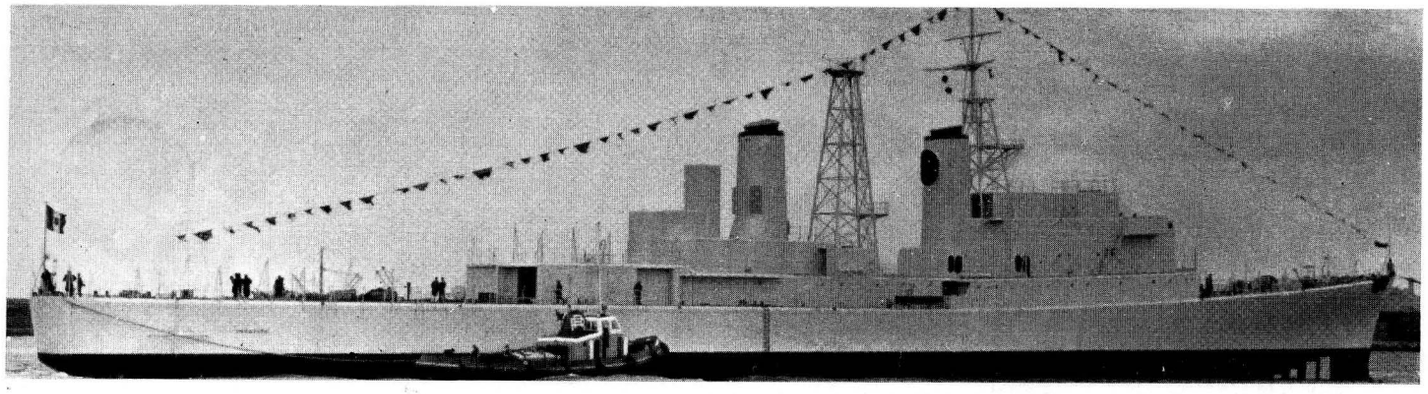
Radar Notes

Different type of radar aerials on the mainmasts.

Class Notes

Sister ships of *Chateaurenault* (ex-*Atillo Regolo*) and *Guichen* (ex-*Scipione Africano*) converted into *Escorteurs d'Escadre* (squadron escorts) for the French Navy.

GUIDED MISSILE ARMED DESTROYERS (DDG)



IMPAVIDO (immediately after being launched)

1962, *courtesy Ing. Augusto Nani*

2 "Impavido" Class (New Construction)

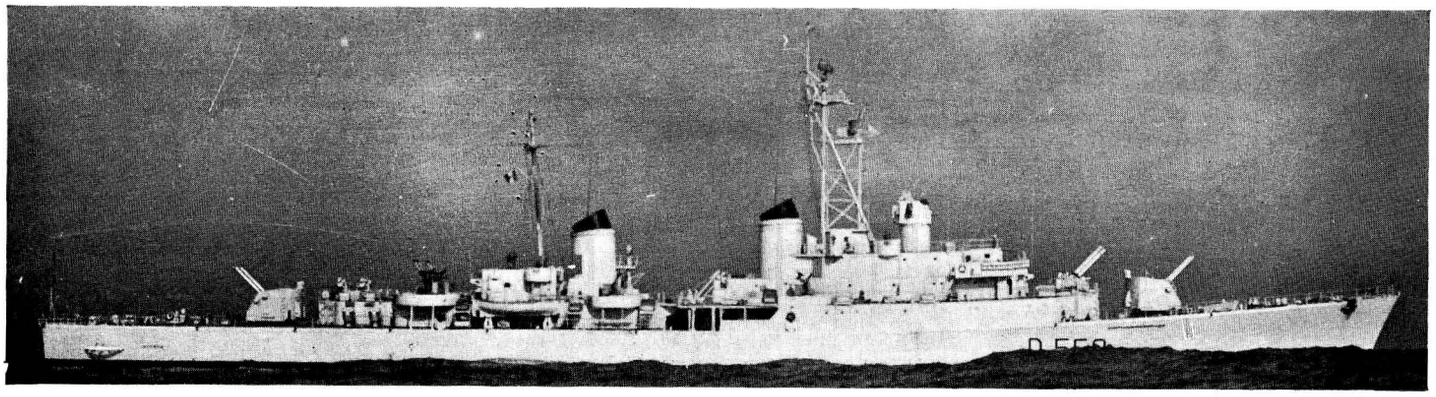
	IMPAVIDO	INTREPIDO
Name:	*Impavido*	*Intrepido*
Pennant No.:	D 560	D 561
Builders:	Cantieri del Tirreno, Riva Trigoso	Ansaldo, Leghorn
Ordered:	Jan. 1957	1959
Laid down:	10 June 1957	16 May 1959
Launched:	25 May 1962	1962

Displacement: 3,201 tons *standard* (3,941 tons *full load*) revised figures
Dimensions: 429½ × 44⅔ × 14¾ feet
Guns: 2—5 inch, 38 cal. AA. (forward); 4—3 inch, 62 cal. AA.
Guided missiles: Single mounting for "Tartar" surface-to-air weapons (aft)
Aircraft: 1 or 2 A/S light helicopters
Tubes: 2 triple, for A/S torpedoes
Machinery: Geared turbines. 2 shafts. S.H.P 70,000=34 kts.
Boilers: 4
Complement: 344

Notes

Rated as *Caccia Lanciamissili* under the generic category of *Navi Scorta di la Classe* (*D*). Built under the 1956-57 and 1958-59 new construction programmes, respectively. Both expected to be launched by the end of 1962.

DESTROYERS (DD)



IMPETUOSO

1959, *Italian Navy, Official*

2 "Impetuoso" Class (officially rated as *Cacciatorpediniere*)

	IMPETUOSO	INDOMITO
Name:	*Impetuoso*	*Indomito*
Pennant No.:	D 558	D 559
Builders:	Cantieri del Tirreno, Riva Trigoso	Ansaldo, Leghorn (formerly O.T.O. Yard)
Ordered:	Nov. 1950	Nov. 1950
Laid down:	7 May 1952	24 Apr. 1952
Launched:	16 Sep. 1956	7 Aug. 1955
Completed:	25 Jan. 1958	23 Feb. 1958

Displacement: 2,775 tons *standard* (3,800 tons *full load*)
Dimensions: 404⅔ (*pp.*) 418⅔ (*o.a.*), × 43⅓ × 17½ feet
Guns: 4—5 inch, 38 cal. AA., 16—40 mm., 56 cal. Bofors AA., 2—4·1 inch (105 mm.) triple star rocket launchers
A/S weapons: 1 three-barrelled automatic long range depth charge mortar, 4 D.C.T., 1 D.C. rack
Machinery: Geared turbines. 2 shafts. S.H.P.: 60,000=34 kts. (see *Engineering Notes*)
Boilers: 4 Foster-Wheeler
Complement: 350

General Notes

Italy's first destroyers to be constructed since the Second World War. Special anti-submarine and heavy anti-aircraft armament. Officially rated as *Cacciatorpediniere* or torpedo boat destroyers.

Engineering Notes

On their sea trials these ships attained a speed of 35 kts. at full load (war displacement).

A/S Weapon Notes

The triple long range A/S weapon has a range of more than 1,600 yards.

2 Ex-U.S. DD Type. "Artigliere" Class (officially rated as *Cacciatorpediniere*)

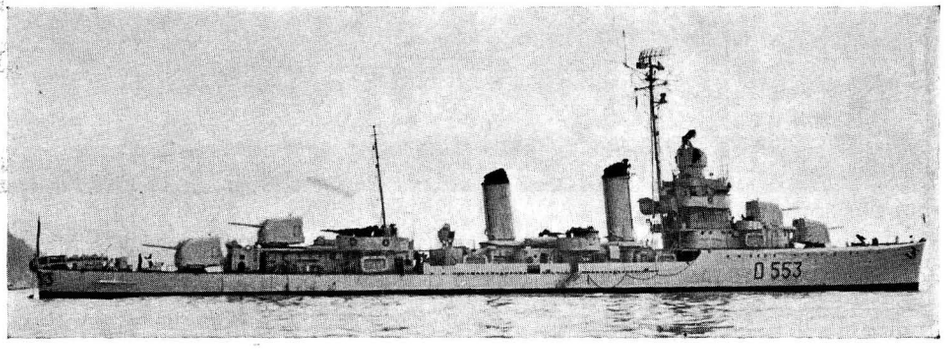
ARTIGLIERE (ex-U.S.S. *Woodworth*, *DD* 460)

Displacement: 1,620 tons *standard* (2,575 tons *full load*)
Dimensions: 348½ (*o.a*) × 35½ × 18 (*max.*) feet
Guns: 4—5 inch, 38 cal., 12—40mm. 56 cal., 6—20 mm., 70 cal.
A/S weapons: 4 D.C. throwers, 2 D.C. racks
Machinery: Geared turbines. 2 shafts. S.H.P.: 50,000=36·5 kts. designed (sea speed 31 kts.)
Boilers: 4 high pressure
Oil fuel: 600 tons
Radius: 6,000 miles at 12 kts.
Complement: 200 (peace), 250 (war)

Notes

Formerly of United States "Mayo" class destroyers (DD).

Name:	*Artigliere*	*Aviere*
Pennant No.:	D 553	D 554
Builders:	Bethlehem, San Francisco	Boston Navy Yard
Laid down:	13 Jan. 1941	1 Nov. 1939
Launched:	29 Nov. 1941	31 May 1940
Completed:	30 Apr. 1942	3 June 1941



ARTIGLIERE

1959, *Giorgio Arra*

General Notes

Both transferred from the United States Navy under the Mutual Defense Assistance Program and commissioned 25 May 1951. Officially turned over to Italy, 11 June, 1951. The 5—21 inch torpedo tubes were removed.

Appearance Notes

Artigliere has flat sided funnels and shielded "X" 5 inch mounting but *Aviere* has round funnels and no shield to "X" 5 inch gun mounting, and has extra tier on bridge, see photographs above and on next page.

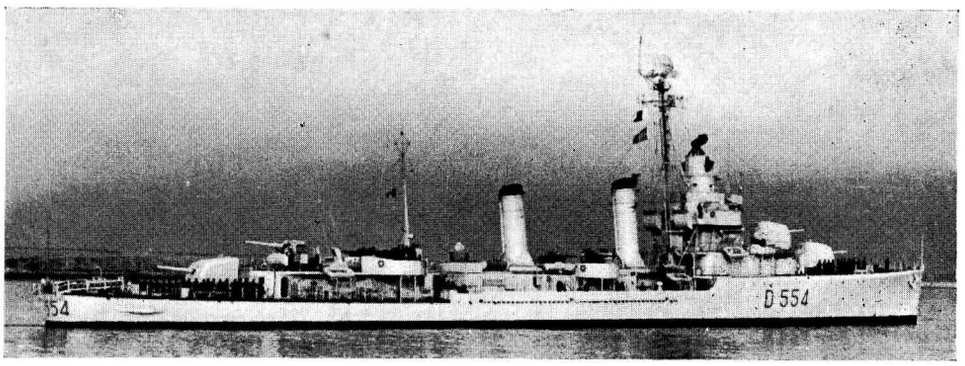
Destroyers—*continued*

2 "Artigliere" Class—*continued*

AVIERE (ex-U.S.S. *Nicholson*, DD 442)

Displacement:	1,700 tons *standard* (2,580 tons *full load*)
Dimensions:	341 (*w.l.*),348½(*o.a.*)×36×10 (*light*), 18(*max.*) feet
Guns:	4—5 inch, 38 cal, 12—40 mm. Bofors, 6—20 mm. Oerlikon
A/S weapons:	4 D.C. throwers, 2 D.C. racks
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 50,000=37·4 kts. designed (sea speed 31 kts.)
Boilers:	4 Babcock & Wilcox
Oil fuel:	600 tons
Radius:	6,000 miles at 12 kts.
Complement:	200 (*peace*), 250 (*war*)

Notes
Formerly of the United States "Gleaves" class destroyers (DD). See *General Notes* and *Appearance Notes* at the bottom of previous page.



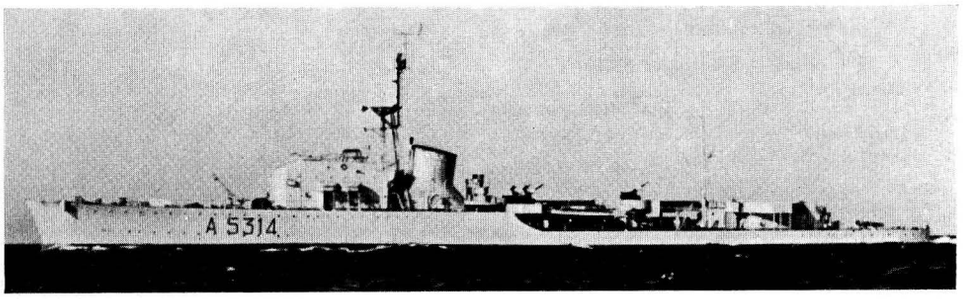
AVIERE 1960, *Giorgio Arra*

DESPATCH VESSELS, Ex—FAST ANTI-SUBMARINE ESCORTS (Converted Destroyers)

1 "Granatiere" Class (officially rated as Auxillary Experimental Ship)

CARABINIERE

Pennant No.:	A 5314 (ex-D 551)
Builders:	Cantiere del Tirreno, Riva Trigoso
Laid down:	Feb. 1937
Launched:	24 July 1938
Completed:	Dec. 1939
Displacement:	1,900 tons *standrd* (2,530 *tons full load*)
Dimensions:	339 (*w.l.*), 350 (*o.a.*)×33½×12 feet (*mean*)
Guns:	1—3 inch, 62 cal. forward, 6—40 mm. AA., 56 cal. (see *Notes*)
Machinery:	2 sets Belluzzo geared turbines. 2 shafts. S.H.P.: 48,000=39 kts. designed (sea speed now 25 kts.)
Boilers:	3, of 3-drum type
Oil fuel:	545 tons
Radius:	1,800 miles at 20 kts.
Complement:	120



CARABINIERE 1962, *Italian Navy, Official*

Notes
Destroyer modernised and converted to Submarine Killer with new type hedgehog forward for trials 1953-54. Her original 4—4·7 inch guns and 3—21 inch (tripled) torpedo tubes were removed. She is at present being used as an auxiliary experimental ship for tests of new electronic equipment, ASW weapons and guns at La Spezia, and her armament is subject to continuous changes.

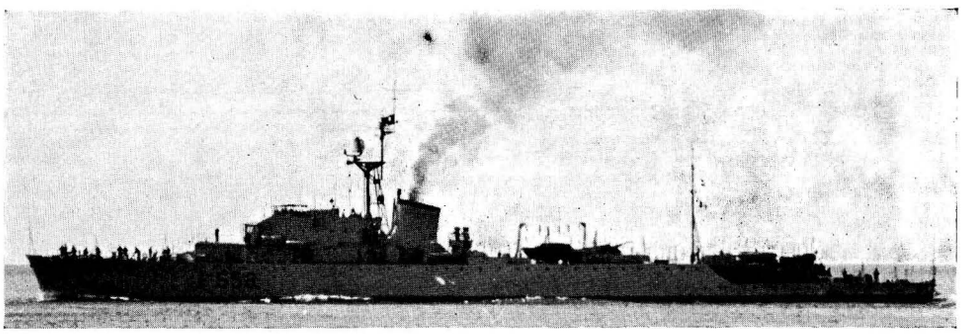
Recent Disposal
Sister ship *Granatiere* was removed from the effective list in 1958.

1 "Grecale" Class (Converted into Command Ship)

GRECALE

Pennant No.:	F 556 (ex-D 552)
Builders:	C. N. Riuniti, Ancona
Laid down:	Apr. 1931
Launched:	17 June, 1934
Completed:	Nov. 1934
Displacement:	1,750 tons *standard* (2,400 tons *full load*)
Dimensions:	333½ (*w.l.*), 350 (*o.a.*)×33½×11 feet
Guns:	2—40 mm. 56 cal.
Machinery:	2 sets Parsons geared turbines. 2 shafts. S.H.P.: 44,000=38 kts. designed (28 kts. now actual best sea speed)
Boilers:	3, of 3-drum type
Oil fuel:	520 tons
Radius:	1,725 miles at 20 kts.
Complement:	153 (peace), 200 (war)

Notes
Former destroyer. Built under the 1930 Programme.



GRECALE 1961, *Captain Aldo Fraccaroli*

Fitted for minelaying. Reconstructed in 1949 with new lattice mast, several new radar sets, and British type navigating bridge, and re-converted to an anti-submarine escort in 1952-53. Her original 4—4·7 inch guns and 6—21 inch torpedo tubes were removed. She was converted in 1959-60 to a command ship, being equipped with CIC and communication apparatus suitable for carrying out her new task as flagship of the Commander-in-Chief of the Fleet.

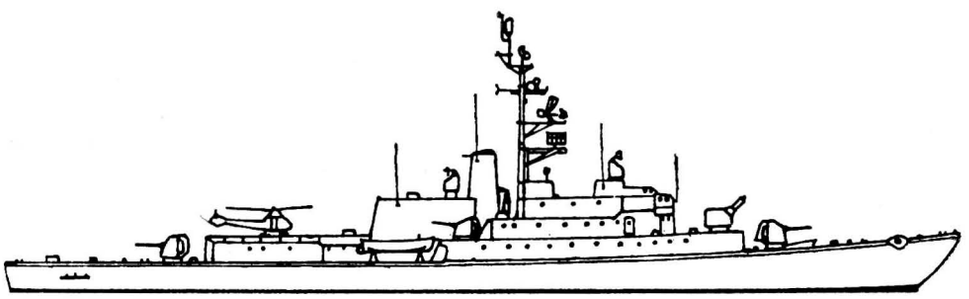
FRIGATES (*Fregate*)

4 "Circe" Class (New Construction) Improved "Centauro" Type

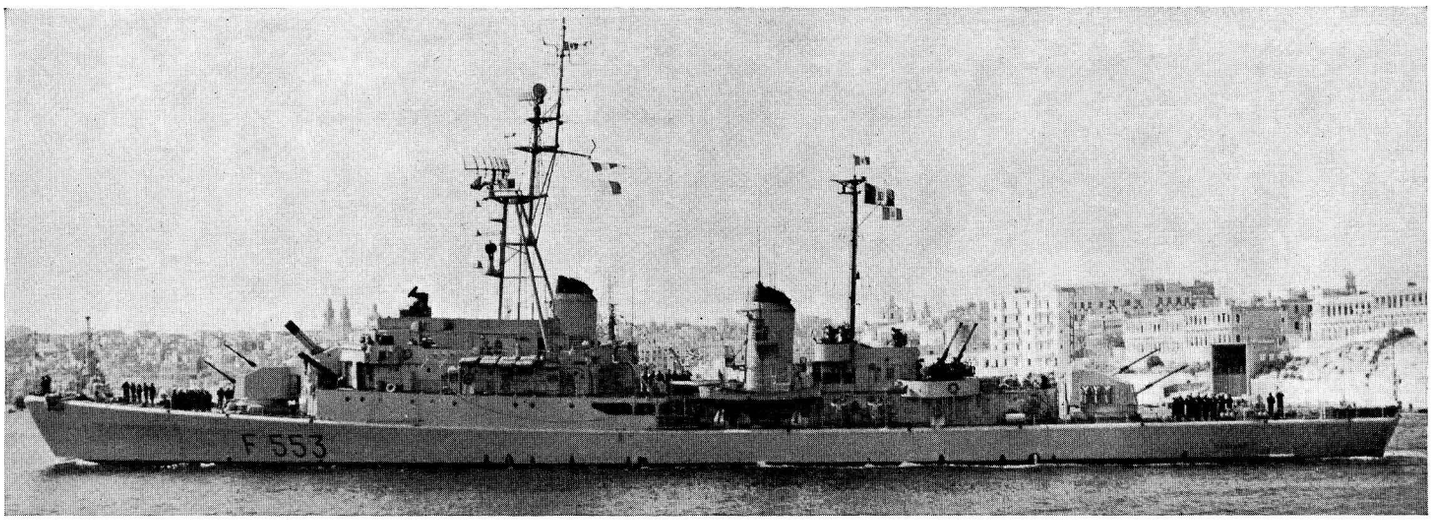
CIRCE **PERSEO**
CLIMENE **POLLUCE**

Displacement:	2,600 tons
Guns:	3—3 inch, 62 cal. (single, fully automatic)
A/S weapons:	1 single-barrelled automatic long range depth charge mortar
Tubes:	2 triple for A/S torpedoes
Aircraft:	1 A/S helicopter
Machinery:	Geared turbines. 2 shafts. S.H.P.: 26,000=27 kts.
Boilers:	2

Notes
The "Circe" class is an improved version of the "Centauro" class. They will have the same basic characteristics but a slightly heavier displacement and increased engine power. *Circe* and *Climene*, which are expected to be laid down in 1962, were provided for under the 1959-60 programme and *Perseo* and *Polluce* under the 1960-61 programme, but the construction of the latter two may be postponed.



Frigates—*continued*



CASTORE with F pennant number)

1961, A. & J. Pavia

4 "Centauro" Class
(officially rated as *Fregate*)

CANOPO
CASTORE (ex-*DE* 1021)

CENTAURO
CIGNO (ex-*DE* 1020)

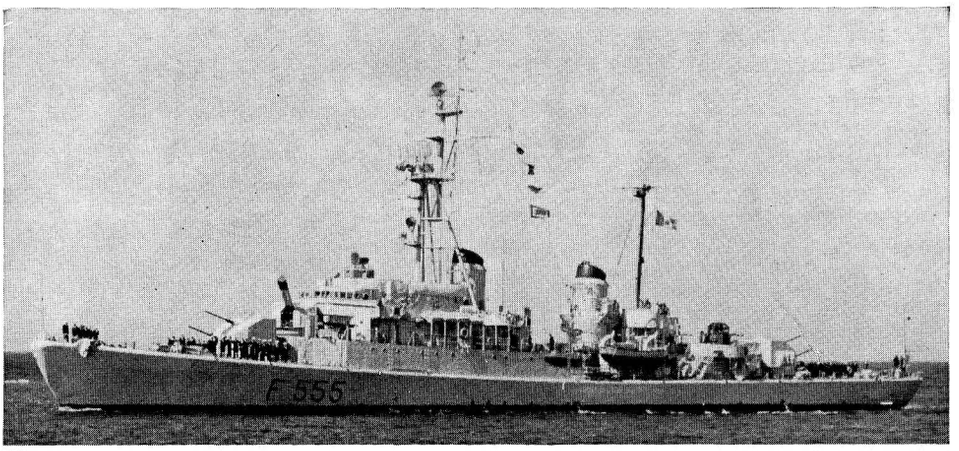
Displacement:	1,680 tons *standard* (2220 tons *full load*)
Dimensions:	317⅔ (*pp.*), 339¼ (*o.a.*) × 38 × 11½ feet
Guns:	4—3 inch, 62 cal. AA.; 4—40 mm. 70 cal. Bofors AA., 2—4·1 inch (105 mm.) triple star rocket launchers
Tubes:	2—21 inch fixed torpedo launchers
A/S weapons:	1 three-barrelled automatic long range depth charge mortar, 4 D.C.T., 1 D.C. rack
Machinery:	Geared turbines. 2 shafts. S.H.P.: 22,000=26 kts.
Boilers:	2 Foster Wheeler
Oil Fuel:	400 tons
Complement:	200

General Notes

Special A/S and medium AA. armament. *Cigno* and *Castore* were built to Italian plans and specifications under the United States off-shore programme for the Italian Navy. All four ships are fitted with United States sonar gear. In 1960 they were given F pennant numbers instead of D pennant numbers (see table).

Gunnery Notes

The 3 inch guns are in twin gunhouses of a new type with the two barrels in the vertical plane, one superfiring over the other. The new two-barrelled 76/62 gun is Italian designed and built by O.T.O., La Spezia. Its rate of fire is 60 rounds per minute with 3,200 feet per second muzzle velocity.



CIGNO

1961, A. & J. Pavia

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 551 (ex-D 570)	*Canopo*	Cantieri Navali di Taranto	15 May 1952	20 Feb. 1955	1 Apr. 1958
F 554 (ex-D 571)	*Centauro*	Ansaldo, Leghorn	31 May 1952	4 Apr. 1954	5 May 1957
F 555 (ex-D 572)	*Cigno*	Cantieri Navali di Taranto	10 Feb. 1954	20 Mar. 1955	7 Mar. 1957
F 553 (ex-D 573)	*Castore*	Cantieri Navali di Taranto	14 Mar. 1955	8 July 1956	14 July 1957

4 "Bergamini" Class
New Construction

CARLO BERGAMINI
CARLO MARGOTTINI

LUIGI RIZZO
VIRGINIO FASAN

Displacement:	1,410 tons *standard* (1,650 tons *full load*), officially revised figures
Dimensions:	298½ (*w.l.*), 308¼ (*o.a.*) × 37¼ × 10⅓ feet
Guns:	3—3 inch, 62 cal. (single, fully automatic) see *Gunnery Notes*
A/S weapons:	1 single-barrelled automatic long range depth charge mortar
Tubes:	2 triple, for A/S torpedoes
Aircraft:	1 light A/S helicopter
Machinery:	4 Tosi diesel motors (*Bergamini* and *Rizzo*), 4 Fiat diesel motors (*Fasan* and *Margottini*). 2 shafts. B.H.P.: 16,000=25 kts. sea speed
Radius:	4,000 miles at 18 kts.

General Notes

Light frigates of a new type with diesel motors instead of steam propulsion. Originally they were officially rated as *Corvette Veloci tipo* 2. (Fast Corvettes, "CV 2" Type). Fitted with Denny-Brown stabilisers. *Carlo Bergamini* was originally to have been built by Cantieri Navali di Taranto: but the order was cancelled and she was begun at C.R.D.A. di Trieste Yard in May 1959 (built until launch in San Marco yard, Trieste, but completed in Monfalcone yard, both of C.R.D.A.).

Anti-Submarine Notes

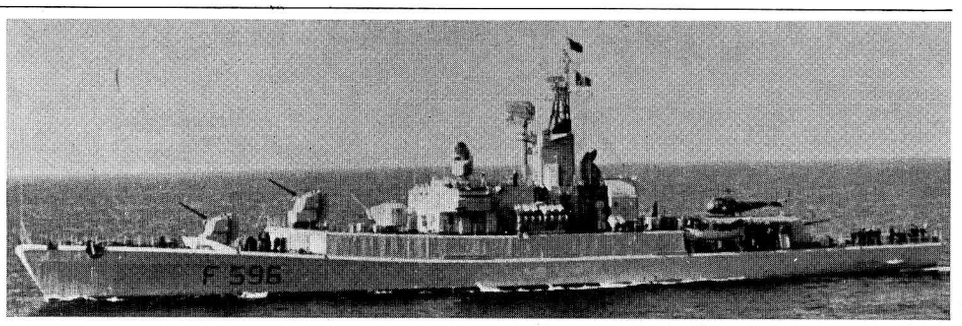
The new single-barrelled depth charge mortars will have a range of over 1,000 yards.

Gunnery Notes

The 3—3 inch guns have a rate of fire of 57 rounds per minute.

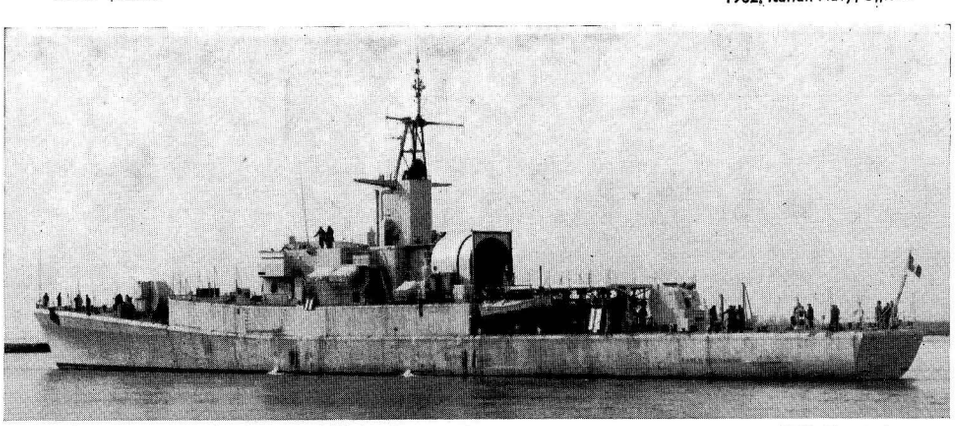
Design Notes

The plans for these ships have undergone many amendments. (See photo of first model in 1957-58 edition, official drawing of second projection in the 1958-59 edition, and revised official drawing of third scheme in the 1959-60 and 1960-61 editions.)



LUIGI RIZZO

1962, *Italian Navy, Official*



CARLO BERGAMINI (on first sea trials) showing open hangar

1962, *Giorgio Arra*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 593	*Carlo Bergamini*	San Marco, C.R.D.A., Trieste	16 July 1959	16 June 1960	1962
F 595	*Carlo Margottini*	Navalmeccanica, Castellammare	26 May 1957	12 June 1960	1962
F 596	*Luigi Rizzo*	Navalmeccanica, Castellammare	26 May 1957	6 Mar. 1960	1961
F 594	*Virginio Fasan*	Navalmeccanica, Castellammare	6 Mar. 1960	9 Oct. 1960	1962

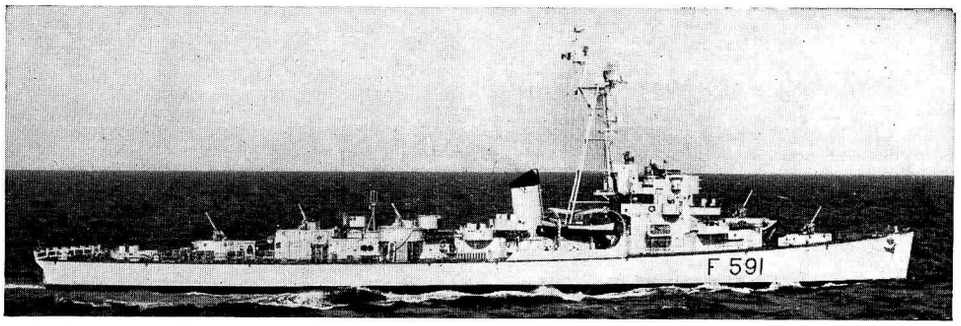
Frigates—*continued*

3 Ex-U.S. DE Type. "Altair" Class (officially rated as *Fregate*)

ALDEBARAN (ex-U.S.S. *Thornhill*, *DE* 195)
ALTAIR (ex-U.S.S. *Gandy*, *DE* 764)
ANDROMEDA (ex-U.S.S. *Wesson*, *DE* 184)

Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36 × 12 (*max.*) feet
Guns:	3—3 inch, 50 cal., 6—40 mm. Bofors AA., 18—20 mm. AA.
A/S weapons:	1 Hedgehog, 8 D.C.T., 2 D.C. racks
Machinery:	General Motors diesels. Electric drive. 2 shafts. B.H.P.: 6,000 = 21 kts. designed (17·5 kts. sea speed)
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	160

General Notes
Ex-U.S. destroyer escorts of the "Bostwick" class ceded by the United States under the Mutual Defense Assistance Program. Transferred 10 Jan. 1951.
Masting Notes
In 1956 a new pentapod foremast was stepped in all three ships in place of the former polemast.



ALTAIR — 1956, *Lieut. Aldo Fraccaroli*

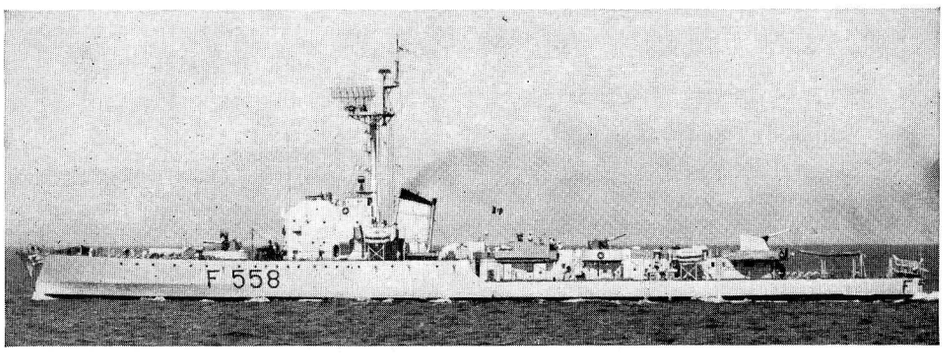
Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 590	*Aldebaran*	Federal S.B. & D.D. Co., P. Newark	7 Oct. 1943	30 Dec. 1943	1 Feb. 1944
F 591	*Altair*	Tampa S.B. Co.	1 Mar. 1943	12 Dec. 1943	7 Feb. 1944
F 592	*Andromeda*	Federal S.B. & D.D. Co., P. Newark	29 July 1943	17 Oct. 1943	11 Nov. 1943

2 "Orsa" Class (officially rated as *Torpediniere*)

	ORIONE	**ORSA**
Name:	*Oriane*	*Orsa*
Pennant No.:	F 559	F 558
Builders:	C.N.R., Palermo	C.N.R., Palermo
Laid down:	Apr. 1936	Apr. 1936
Launched:	21 Mar. 1937	21 Apr. 1937
Completed:	1938	1938

Displacement:	1,200 tons *standard* (1,700 tons *full load*)
Dimensions:	274¼ (*pp.*), 279 (*w.l.*), 292¾ (*o.a.*) × 31 × 11½ (*max.*), 8 (*mean*) feet
Guns:	6—40 mm. 56 cal. Bofors AA.
A/S weapons:	Removed
Machinery:	Tosi geared turbines. 2 shafts. S.H.P.: 16,000 = 22 kts. sea speed
Boilers:	2, of 3 drum type
Oil fuel:	450 tons
Radius:	4,000 miles at 15 kts.
Complement:	110

General Notes
Ordered in 1935. Fitted for minelaying and minesweeping.



ORSA — *Added 1959, Captain Aldo Fraccaroli*

Can carry 20 mines. Were rated as Escort Vessels (*Avvisi Scorta*) when first completed, later as torpedo boats and re-rated as Escort Vessels again in 1951. Converted to anti-submarine frigates in 1953-55, torpedo tubes being removed. A/S weapons were removed in 1960.

Reclassification Notes
Formerly rated as *Navi Scorta Costiere*. Re-rated as *Torpediniera* in 1959. Now employed as Target Direction Ships.
Photograph Notes
A photograph of *Orione* appears in the 1958-59 edition.

1 "Libra" Class (officially rated as *Torpediniera*)

LIBRA

Pennant No.:	F 552
Builders:	C.N. Quarnaro Fiume
Laid down:	Dec. 1936
Launched:	30 Oct. 1937
Completed:	Jan. 1938
Displacement:	1,030 tons *standard* (1,250 tons *full load*)
Dimensions:	259⅛ (*w.l.*), 280¾ (*o.a.*) × 27 × 9 (*mean*) feet
Guns:	6—40 mm. (3 twin mountings)
A/S weapons:	1 Hedgehog, 2 D.C.T., 2 D.C. racks
Machinery:	2 sets Tosi geared turbines. 2 shafts. S.H.P.: 19,000 = 25 kts. sea speed
Boilers:	2, of 3-drum type
Oil fuel:	207 tons
Radius:	1,260 miles at 20 kts.
Complement:	110 (peacetime), 159 wartime

General Notes
Fitted for minelaying and minesweeping. Former ocean-going torpedo boat. Converted to a fast light anti-submarine frigate in 1951-53. Torpedo tubes removed.

Reclassification Notes
Latterly rated as *Nave Scorta Costiera*. Officially re-rated as *Torpedininiera* in 1959. Now being used as a training ship.

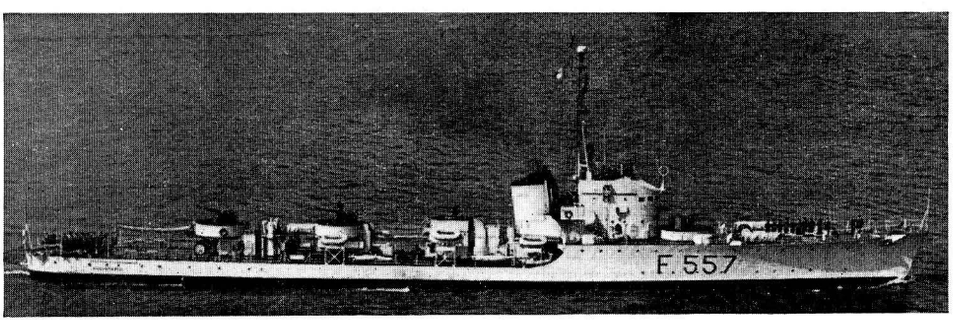
Recent Disposal
Sister ship *Clio* was scrapped in 1960.

1 "Sirio" Class (officially rated as *Torpediniera*)

SAGITTARIO

Pennant No.:	F 557
Builders:	C. N. Quarnaro Fiume
Laid down:	Nov. 1935
Launched:	21 June 1936
Completed:	Oct. 1936
Displacement:	1,000 tons *standard* (1,200 tons *full load*)
Dimensions:	269 × 27 × 9 feet
Guns:	6—40 mm. AA. (3 twin mountings)
A/S weapons:	1 Hedgehog, 2 D.C.T., 2 D.C. racks
Machinery:	2 Tosi geared turbines. 2 shafts S.H.P.: 19,000 · 25 kts. sea speed
Boilers:	2, of 3-drum type
Oil fuel:	193 to 211 tons
Radius:	1,200 miles at 20 kts.
Complement:	110 (peace time)

General Notes
Fitted for minelaying and minesweeping. Torpedo boat type converted to a fast anti-submarine frigate in 1951-52.



SAGITTARIO — 1960, *courtesy Ing. Augusto Nani*

Subsequently employed as MTB Depot Ship. Now used as an experimental ship for A/S weapons.

Recent Disposals
Sister ships *Cassiopea* and *Sirio* were scrapped in 1960.

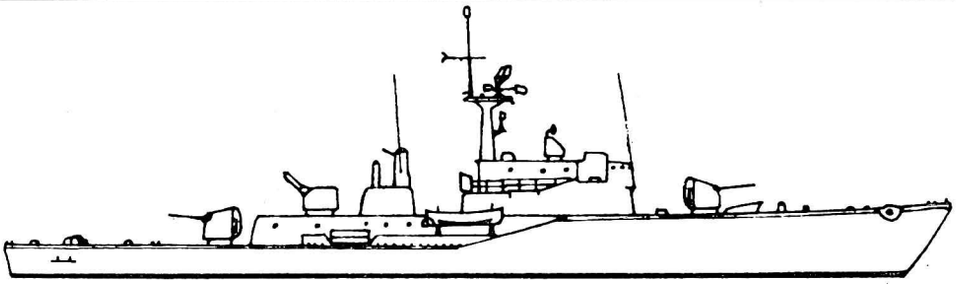
CORVETTES

4 "De Cristofaro" Class (New Construction)

LICIO VISINTINI **SALVATORE TODARO**
PIETRO DE CRISTOFARO **UMBERTO GROSSO**

Displacement:	840 tons *standard* (950 tons *full load*)
Dimensions:	246 (*pp.*), 263 (*o.a.*) × 33 × 8¾ feet
Guns:	2—3 inch, 62 cal. single
A/S weapons:	1 single barrelled automatic long range depth charge mortar
Tubes:	2 triple for A/S torpedoes
Machinery:	2 diesel motors. 2 shafts. B.H.P.: 8,000 22 kts.
Radius:	4,000 miles at 18 kts.

Notes
It is officially stated that the "De Cristofaro" class is an improved version of the "Albatros" class. All four units were ordered in 1962, *De Cristofaro* from Cantieri Navali Riuniti, Ancona; *Visintini* from C.R.D.A. Trieste; *Todaro* and *Grosso* from Ansaldo, Livorno. Scheduled to be laid down in 1962-63.



Corvettes—*continued*

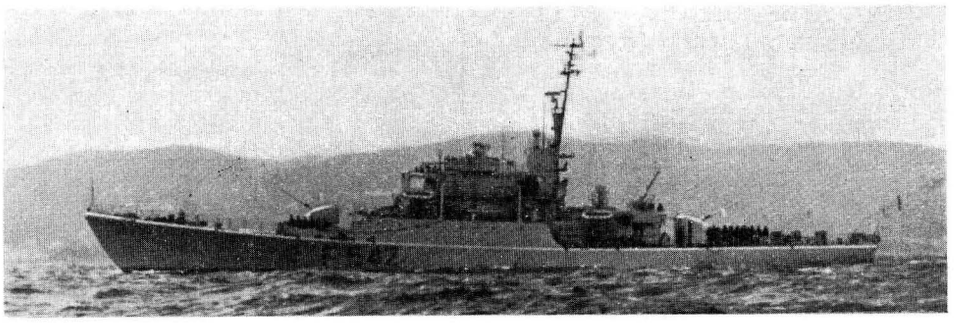
4 "Albatros" Class

AIRIONE (ex-*PCE* 1921) **ALCIONE** (ex-*PCE* 1920)
ALBATROS (ex-*PCE* 1919) **AQUILA** (ex-*Lynx*, ex-*PCE* 1626)

Displacement:	800 tons *standard* (950 tons *full load*)
Dimensions:	244 (*pp.*), 249½ (*o.a.*) × 31 × 9 feet
Guns:	2—3 inch, 62 cal., 2—40 mm., 70 cal., Bofors A.A.
A/S weapons:	2 Hedgehogs, Mk. II, 2 D.C.T., 1 D.C. rack
Machinery:	Fiat diesels. 2 shafts. B.H.P.: 4,500 = 21 kts. (sea speed 20 kts.)
Oil fuel:	100 tons
Radius:	2,400 miles at 18 kts.
Complement:	109

General Notes
Airione, *Albatros* and *Alcione* were built in Italy by Navalmeccanica, Castellammare di Stabia. Four other identical ships were built in Italian yards to the offshore construction order of the United States for Mutual Defense Program general account and handed over to Denmark.

Photograph Notes
A photograph of *Airione* appears in the 1959-60 to 1961-62 editions.



AQUILA (ex-Lynx) — 1962, *Italian Navy, Official*

Transfer Notes
Aquila, which was built by Breda Marghera Yard, Mestre, Venice, Italy (laid down 25 July 1953), but initially given to the Netherlands, was ceded to the Italian Navy on 18 Oct. 1961 at Den Helder.

Pennant No.	*Name*	*Launched*	*Completed*
F 545	*Airione*	21 Nov. 1954	29 Dec. 1955
F 543	*Albatros*	18 July 1954	1 June 1955
F 544	*Alcione*	19 Sep. 1954	23 Oct. 1955
F 542	*Aquila*	31 July 1954	2 Oct. 1956

22 "Ape" Class
(officially rated as *Corvette*)

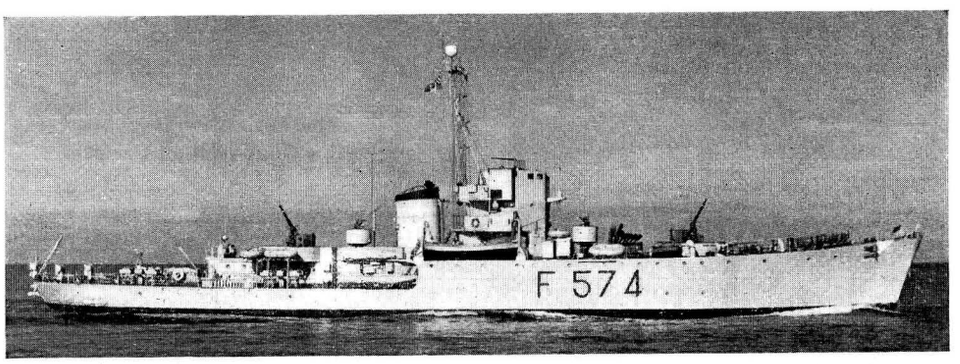
F 567 **APE**	F 576 **FOLAGA**
F 578 **BAIONETTA**	F 571 **GABBIANO**
F 549 **BOMBARDA**	F 566 **GRU**
F 569 **CHIMERA**	F 561 **IBIS**
F 575 **CORMORANO**	F 562 **MINERVA**
F 547 **CRISALIDE**	F 574 **PELLICANO**
F 563 **DANAIDE**	F 573 **POMONA**
F 568 **DRIADE**	F 564 **SCIMITARRA**
F 548 **FARFALLA**	F 579 **SFINGE**
F 577 **FENICE**	F 565 **SIBILLA**
F 572 **FLORA**	F 570 **URANIA**

Displacement:	670 tons *standard* (800 tons *full load*)
Dimensions:	192¾ (*w.l.*), 211½ (*o.a.*) × 28½ × 8½ feet
Guns:	4—40 mm., 56 cal. in 11 ships, 3—40 mm., 56 cal. in 9 ships (2—20 mm. AA., 70 cal. in two ships) see notes
Tubes:	2—17·7 inch (see notes)
A/S weapons:	1 Hedgehog, Mk. 15 or Mk. 10 (see notes), 4 D.C.T., 1 D.C. rack
Machinery:	Fiat diesels. 2 shafts. B.H.P.: 3,500 = 18·5 kts. Actual best speed is 15 kts.
Oil fuel:	64 tons
Radius:	2,800 miles at 15 kts.
Complement:	100

Notes
All launched in 1942-48. Originally fitted for minesweeping. Only vessels (8) attached to the Command Training School carry torpedo tubes for training. Eleven of this class (*Ape*, *Chimera*, *Cormorano*, *Danaide*, *Fenice*, *Flora*, *Folaga*, *Pellicano*, *Pomona*, *Sibilla* and *Sfinge*) carry 4—40 mm., 56 cal. AA. guns *Bombarda* and *Gabbiano* carry 2—40 mm., 56 cal. AA. guns and 2—20 mm. 70 cal. AA. guns. Remainder have 3—40 mm., 56 cal. AA. guns (*Cormorano* and *Danaide* have no hedgehog). The armament of these ships is frequently changed. All have been modified with navigating bridge.



DANAIDE (fitted as leader, with deckhouse. No hedgehog) — 1962, *Giorgio Arra*



PELLICANO — 1960, *Italian Navy, Official*

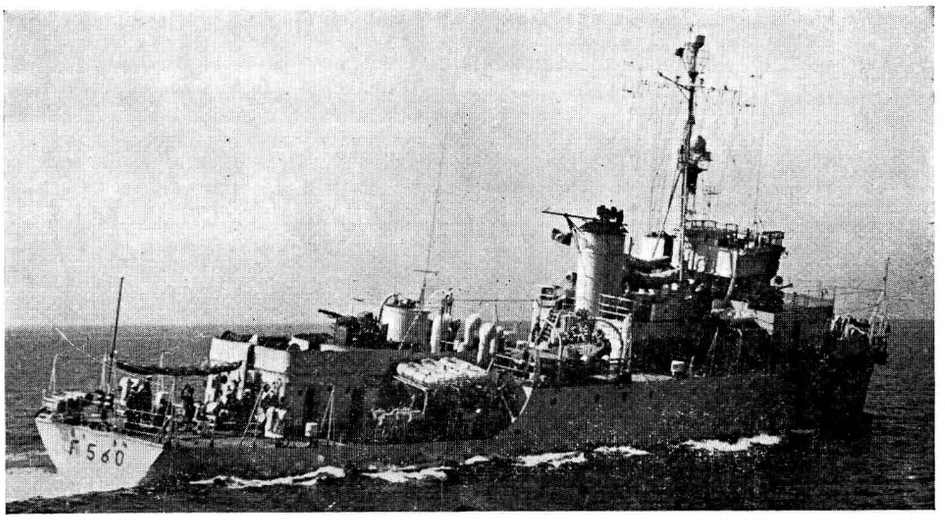
1 Ex-British "Algerine" Class
(officially rated as *Corvetta*)

ALABARDA (ex-*Ammiraglio Magnaghi*, ex-*Eritrea*, ex-*Larne*)

Pennant No.:	F 560
Builders:	Lobnitz & Co., Ltd., Renfrew
Laid down:	25 Jan. 1943
Launched:	2 Sep. 1943
Completed:	22 Nov. 1943

Displacement:	990 tons *standard* (1,262 tons *full load*)
Dimensions:	225 (*o.a.*) × 35½ × 11½ (*max.*) feet
Guns:	4—40 mm., 56 cal. Bofors
A/S weapons:	4 D.C.T., 2 D.C. racks
Machinery:	Triple expansion. I.H.P.: 2,000 = 13 kts. (sea speed 11 kts.)
Boilers:	2, three-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 8 kts.
Complement:	100

Note
Former British "Algerine" class ocean minesweeper. Acquired by Italy after Second World War. First classed officially as colonial sloop, then as corvette, subsequently as frigate, and later as coastal escort vessel. Classification officially changed from *Nave Scorta Costiera* to *Corvetta* in 1959. The 3·9 inch gun forward was removed in 1957 and the space is now occupied by C.O. (F.O.) for motor torpedo boats. This ship is now obsolescent and will probably be scrapped in the near future.



ALABARDA — 1958, *Captain Aldo Fraccaroli*

Reclassification Notes
In 1960 the corvettes *Daino* and *Gazzella* were reclassified, the former as a surveying vessel and the latter as a training ship (see under surveying vessels and training ships on later pages).

SUBMARINES

1 Projected Nuclear Powered Type

GUGLIELMO MARCONI

Displacement:	2,830 tons *surface*
Dimensions:	252×31 feet
Machinery:	Water-cooled nuclear reactor. Geared turbines

Notes
The first nuclear powered submarine projected in Italy. Still in the planning stage. Based on the design of the United States nuclear powered submarine *Skipjack*.

4 "Toti" Class (New Construction) Submarine Killer Type (SSK)

ATTILIO BAGNOLINI **ENRICO TOTI**
ENRICO DANDOLO **MOCENIGO**

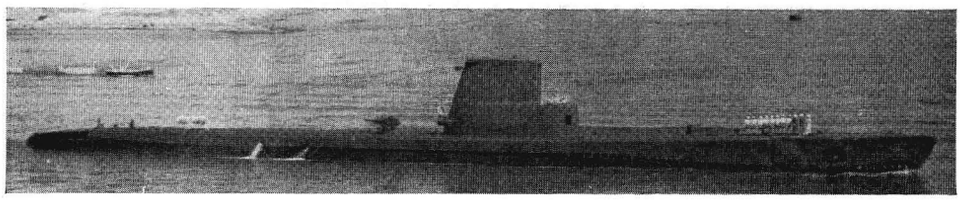
Displacement:	439 tons *standard*, 500 tons *surface* (557 tons *submerged*)
Dimensions:	160×15¼×15¼ feet (official figures)
Tubes:	3—21 inch
Machinery:	Diesel-Electric propulsion. 1 shaft. 2 diesels. B.H.P.: 1,260=10 kts. *surface* 1 electric motor. H.P.: 850=14 kts. *submerged*

Notes
Attilio Bagnolini was to have been built under the 1956-57 Programme by C. N. Taranto. Begun nominally on 16 June 1957. Was originally to have been named *Delfino*, and then *Guglielmo Marconi*. Italy's first submarine to be constructed since the Second World War. *Enrico Toti*, ordered from C.R.D.A., Monfalcone, was to have been built under the 1958-59 programme. *Attilio Bagnolini* and *Enrico Toti* were laid down in 1962 by C.R.D.A., Monfalcone, and are expected to be completed in 1964.

1 Ex-U.S. "Balao" Class

EVANGELISTA TORRICELLI (ex-U.S.S. *Lizardfish*, SS 373)

Pennant No.:	S 512
Builders:	Manitowoc S.B. Co.
Launched:	16 July 1944
Completed:	30 Dec. 1944
Transferred:	1 Apr. 1959
Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½×27×17 feet
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	2 2-stroke diesels. B.H.P.: 6,500=20 kts. *surface* 2 electric motors. H.P.: 2,750=10 kts. *submerged*
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	85



EVANGELISTA TORRICELLI — **1960, *A. & J. Pavia***

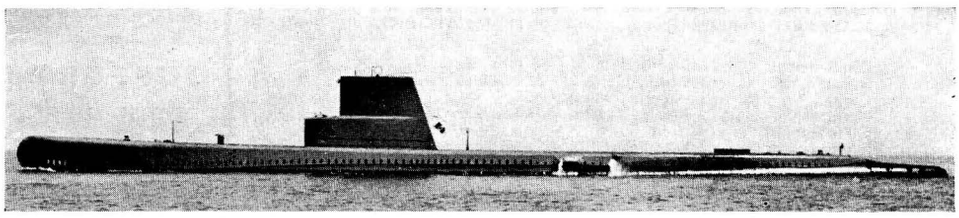
Notes
Former American oceangoing submarine of the "Balao" class. Lent to the Italian Navy by the U.S.A. Transferred to the Italian Navy by the U.S. Navy at Pearl Harbour on 9 Jan. 1960. Was originally to have been renamed *Luigi Torelli*.

2 Ex-U.S. "Gato" Class

LEONARDO DA VINCI (ex-U.S.S. *Dace*, SS 247)
ENRICO TAZZOLI (ex-U.S.S. *Barb*, SS 220)

Name:	*Leonardo da Vinci*	*Enrico Tazzoli*
Pennant No.:	S 510	S 511
Builders:	Electric Boat Div. General Dynamics Corpn.	Electric Boat Div. General Dynamics Corpn.
Laid down:	22 July 1942	7 June 1941
Launched:	25 Apr. 1943	2 Apr. 1942
Completed:	23 July 1943	8 July 1942
Transferred:	15 Dec. 1954	31 Jan. 1955

Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½×27×17 feet
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	2 General Motors 2-stroke diesels. B.H.P.: 6,500=20 kts. *surface* 2 electric motors. H.P.: 2,750=10 kts. *submerged*
Oil fuel:	250 tons
Radius:	12,000 miles at 10 kts.
Complement:	85



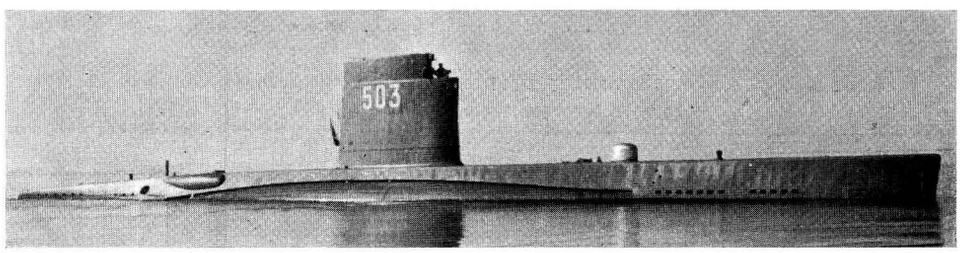
LEONARDO DA VINCI — *Italian Navy, Official*

Notes
Former American oceangoing submarines of the "Gato" class. Transferred to Italy by U.S.A. after conversion to guppy snorkel in 1953-54. Modified structure and fairwater. Loan by U.S. extended for 5 years in 1959.

2 "Flutto" Class

PIETRO CALVI (ex-*Bario*, ex-*Uit 7*, ex-*Bario*)

Pennant No.:	S 503
Builders:	C.R.D.A., Trieste (1944) C.N. Taranto (1961)
Laid down:	15 Mar. 1943
Launched:	23 Jan. 1944
Completed:	Dec. 1957
Rebuilt:	1961
Displacement:	800 tons *standard*, 905 tons *surface*, 1,107 tons *submerged*
Dimensions:	216½×23×13½ feet
Tubes:	4—21 inch
Machinery:	2 MAN diesels. 1 shaft. B.H.P.: 2,700=15 kts. *surface*, 3 electric motors=12·5 kts. *submerged*
Radius:	10,000 miles at 8 kts.
Complement:	60

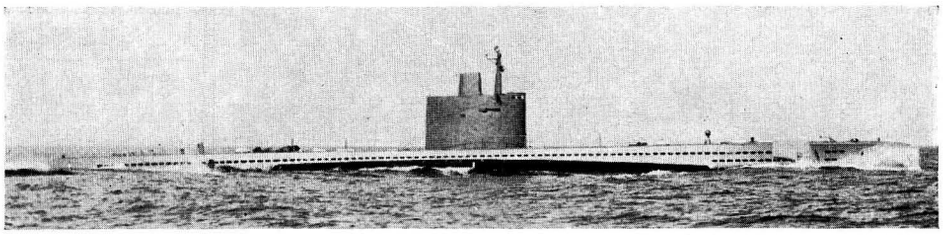


PIETRO CALVI — 1962, *Italian Navy, Official*

Notes
This boat was sunk by Allied air-raid on 16 Mar. 1945 after having been renamed *Uit 7*. She was completely reconstructed with a tear drop bow and modernised during 1957-59 and re-launched on 21 June 1959 (see photo). In Mar. 1961 her original name *Bario* was changed to *Pietro Calvi*.

VORTICE (ex-*P.V.2*, ex-*Vortice*)

Pennant No.:	S 502
Builders:	C.R.D.A., Monfalcone
Laid down:	3 Jan. 1942
Launched:	23 Feb. 1943
Completed:	21 June 1943
Displacement:	781 tons *standard*, 901 tons *surface*, 1,095 tons *submerged*
Dimensions:	207½×22¾×16 feet
Tubes:	4—21 inch (originally 6—21 inch)
Machinery:	2 FIAT diesels. 2 shafts. B.H.P.: 2,400=15 kts. *surface*, 2 electric motors. H.P.: 1,350=7 kts. *submerged*
Radius:	12,500 miles at 8 kts.
Complement:	52



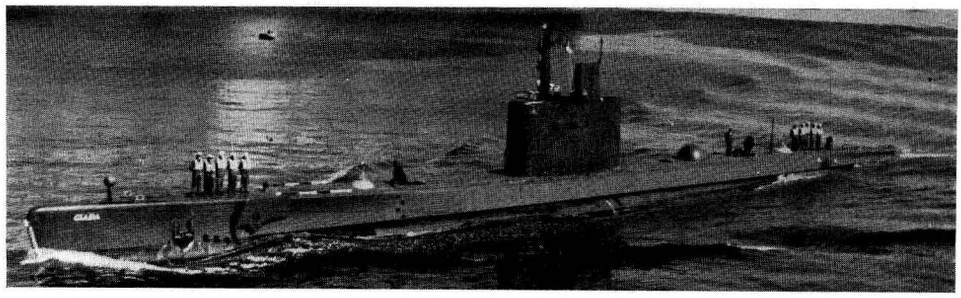
VORTICE — 1958, *Italian Navy, Official*

Notes
Vortice is one of 8 boats of the "Flutto" Class which joined the Royal Italian Navy during the war. She was laid up under the terms of the Peace Treaty. Her subsequent reconditioning was completed at the end of 1952.

1 "Acciaio" Class

GIADA (ex-*P.V. 1*, ex-*Giada*)

Pennant No.:	S 501
Builders:	C.R.D.A., Monfalcone
Laid down:	16 Oct. 1940
Launched:	10 July 1941
Completed:	6 Dec. 1941
Displacement:	643 tons *standard*, 719 tons *surface*, 865 tons *submerged*
Dimensions:	197½×21½×15¾ feet
Tubes:	6—21 inch
Machinery:	2 Tosi diesels. 2 shafts. B.H.P.: 1,350 12 kts. *surface*, 2 electric motors, H.P.: 800 6 kts. *submerged*
Oil fuel:	40 tons
Radius:	2,050 miles at 8 kts.
Complement:	54



GIADA — 1962, *courtesy Dr. Ing. Luigi Accorsi*

Notes
One of the 13 "Acciaio" Class boats which actually joined the Royal Italian Navy during the war. Laid up under the terms of the Peace Treaty. Reconditioning completed end of 1953. Guns removed.

OCEAN MINESWEEPERS



STORIONE — *Added* 1960

4 Ex-U.S. MSO Type
"Salmone" Class

M 5430 **SALMONE** (ex-*MSO* 507)
M 5432 **SGOMBRO** (ex-*MSO* 517)
M 5433 **SQUALO** (ex-*MSO* 518)
M 5431 **STORIONE** (ex-*MSO* 506)

Displacement:	665 tons *standard* (750 tons *full load*)
Dimensions:	165 (*w.l.*) 173 (*o.a.*) × 35 × 10 feet
Guns:	1—40 mm., 56 cal. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,600 = 14 kts.
Oil fuel:	46 tons
Range:	3,000 miles at 10 kts.
Complement:	74

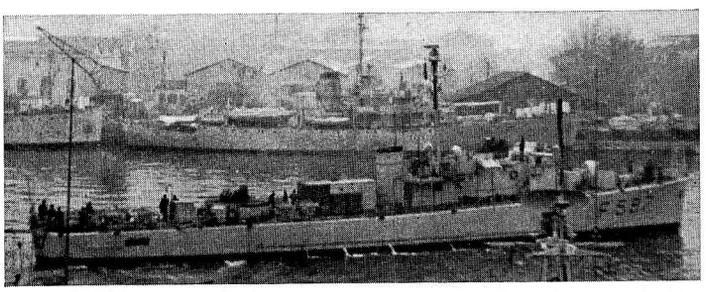
General Notes
Former American " Agile " class ocean minesweepers with wooden hulls and non-magnetic equipment. The diesels are of non-magnetic stainless steel alloy. Controllable pitch propellers. All transferred by the U.S. Navy. *Storione*, launched on 13 Nov. 1954, was built by Martinolich S.B. Company, San Diego, and transferred on 23 Feb. 1956. *Salmone*, launched on 19 Feb. 1955 was built by Martinolich S.B. Co., and transferred from United States at San Diego, Calif., on 17 June 1956 under the terms of the Mutual Defense Assistance Program. *Sgombro* and *Squalo* were delivered in June 1957.

Photograph Notes
A much larger photograph of *Storione* appears in the 1957-58 to 1959-60 editions.

Disposals of Fast Minesweepers
The four fast minesweepers (ex-ocean-going torpedo boats) were removed from the effective list, *Nicola Fabrizi* in 1957, and *Antonio Mosto*, *Giacinto Carini* and *Guiseppe Abba* in 1958.

Disposals of Small Minesweepers
The small steam minesweepers *DR* 20, *DR* 32, *DR* 34, *DR* 38, *DR* 40 and *DR* 41, have been scrapped.

PATROL VESSELS



VEDETTA — 1960, *Captain Aldo Traccaroli*

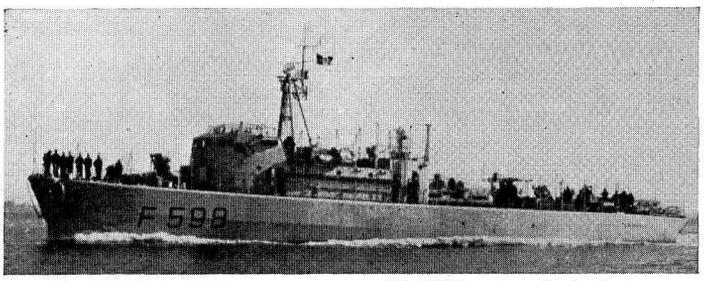
1 Ex-U.S. PC Type
Rated as Coastal Escort Vessel (*Corvetta*)

VEDETTA (ex-*Belay Deress*, ex-U.S.S. *PC* 1616)

Displacement:	325 tons *standard* (450 tons *full load*)
Dimensions:	170 (*pp.*), 173⅜ (*o.a.*) × 2⅝ × 10 feet
Guns:	2—40 mm., 56 cal. Bofors AA., 2—20 mm. AA.
Machinery:	4 diesels. 2 shafts. B.H.P.: 3,240 = 19 kts.
A/S weapons:	1 Hedgehog. 4 D.C.T., 2 D.C. racks
Radius:	3,000 miles at 12 kts.
Complement:	60

Notes
This ship has had rather a chequered history. She was built at Brest, France, as a United States off-shore order under the Mutual Defense Assistance Program. Laid down on 17 Dec. 1953. Launched on 30 Sep. 1954. Completed on 23 Aug. 1955. The *PC* 1616 was originally intended for Germany, but a change in U.S. plans resulted in the ship never being delivered, and she was finally given to Ethiopia under the Military Assistance Program. Transferred to Ethiopia at Bremerhaven, Germany, by the U.S. Navy in Jan. 1957. Officially taken over from the American flag at Massawa, Ethiopia, in mid-1957. Later, the ship was found to be too much for the state of naval training in Ethiopia, and she was returned to the U.S. Navy. She was then sold to Italy, being transferred to the Italian Navy under the Mutual Defense Assistance Program on 3 Feb. 1959, and officially classified as a *nave pattuglia* (patrol vessel). Air-conditioning equipment is installed. Refitted in La Spezia Navy Yard in 1959. The above is the original armament which may be modified in due course.

Patrol Vessels—*continued*



SENTINELLA — *Added* 1960, *courtesy Ermino Bagnasco*

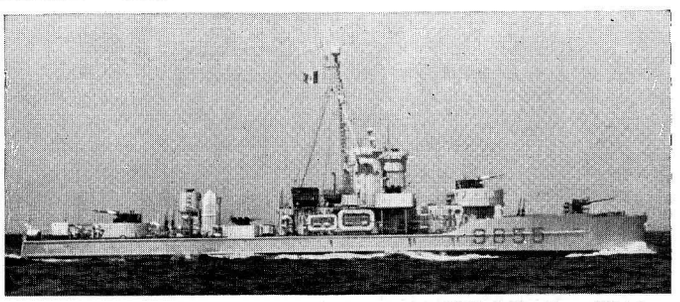
1 Submarine Chaser Type
Rated as Coastal Escort Vessel (*Corvetta*)

SENTINELLA (ex-*VAS* 470) Pennant No.: F 598

Displacement:	300 tons *standard* (340 tons *full load*)
Dimensions:	154 (*p.p.*), 163 (*o.a.*) × 21⅔ × 7 feet
Guns:	2—40 mm. 56 cal. AA
Torpedoes:	2—17·7 inch A/S
A/S weapons:	1 Hedgehog, Mk. 10, 2 D.C.T., 1 D.C. rack
Machinery:	4 diesels. 2 shafts. B.H.P.: 9,000 = 32 kts. (*designed*) Sea speed, 27 kts.
Oil fuel:	28 tons
Complement:	60

Notes
Ordered in 1952 and laid down on 21 June 1954 at C.R.D.A. Monfalcone yard. Launched on 14 Nov. 1955. Commissioned on 20 Sep. 1956. Rated specifically as a corvette under the generic category of coastal escort vessels.

SUPPORT GUNBOATS (*Cannoniere d'appoggio*)



SEGUGIO — 1957, *Italian Navy, Official*

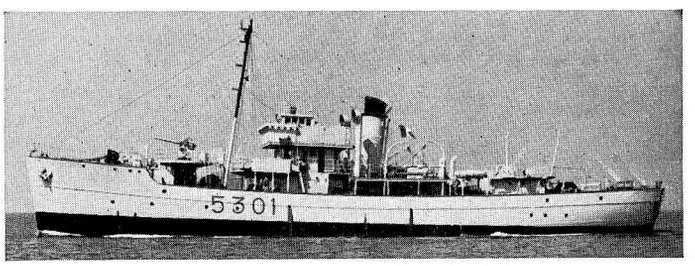
(Ex-U.S. Landing Ships, Support/Large)
6 "Alano" Class

ALANO (ex-*LSSL* 34)
BRACCO (ex-*LSSL* 38)
MASTINO (ex-*LSSL* 62)
MOLOSSO (ex-*LSSL* 63)
SEGUGIO (ex-*LSSL* 64)
SPINONE (ex-*LSSL* 118)

Displacement:	246 tons *standard* (430 tons *full load*)
Dimensions:	153 (*w.l.*), 158½ (*o.a.*) × 23⅔ × 5⅔ feet
Guns:	5—40 mm., 56 cal.; 4—20 mm., 70 cal.; 4—12·7 mm.
Machinery:	8 Gray Marine diesels. 2 shafts. B.H.P.: 900 = 12·5 kts. (Sea speed 10 kts.)
Oil fuel:	87 tons
Radius:	8,000 miles at 10 kts.
Complement:	73

Notes
Transferred from the U.S.A. on 25 July, 1951, under the Mutual Defense Assistance Program. Formerly designated LCI (L) (Landing Craft Infantry, Large). Distinguished by NATO pennant numbers L 9851 to L 9856 respectively. Photograph of *Alano* in the 1957-58 edition.

GENERAL PURPOSE VESSELS



DR 301 — 1958, *Italian Navy, Official*

16 Ex-British Trawler Minesweeper Type

DR 301 (ex-*Burra*)
DR 302 (ex-*Cumbrae*)
DR 303 (ex-*Unst*)
DR 304 (ex-*Staffa*)
DR 305 (ex-*Filla*)
DR 306 (ex-*Egilsay*)
DR 307 (ex-*Minuet*)
DR 308 (ex-*Twostep*)
DR 309 (ex-*Grain*)
DR 310 (ex-*Othello*)
DR 311 (ex-*Mousa*)
DR 312 (ex-*Gavotte*)
DR 313 (ex-*Foula*)
DR 314 (ex-*Ensay*)
DR 315 (ex-*Stroma*)
DR 316 (ex-*Hornpipe*)

Displacement:	523 to 545 tons *standard* (750 to 780 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*) × 27⅔ × 11 feet
Guns:	3—20 mm. AA (see *Notes*)
Machinery:	Triple expansion. I.H.P.: 950 = 11 kts.
Boilers:	1 cylindrical
Fuel:	180 to 189 tons coal
Complement:	36

Notes
All Admiralty design minesweeping trawlers of the " Isles," " Dance " and " Shakespearian " classes purchased from Great Britain. NATO Pennant Nos. M 5301 to 5316, respectively. The 3-inch gun in all ships was removed and one 20 mm. AA. gun added in 1956. Formerly classed as minesweepers (*Dragamine*), MSA, rated as auxiliaries for general purposes in 1962.

COASTAL MINESWEEPERS



MANDORLO 1962, *Italian Navy, Official*

37 U.S. and Italian MSC (ex-AMS) Types (*Dragamine Costieri*)

18 "Abete" Class (American built)

M 5501 **ABETE**	M 5507 **FAGGIO**	M 5512 **OLMO**
M 5502 **ACACIA**	M 5508 **FRASSINO**	M 5513 **ONTANO**
M 5503 **BETULLA**	M 5509 **GELSO**	M 5514 **PINO**
M 5504 **CASTAGNO**	M 5510 **LARICE**	M 5515 **PIOPPO**
M 5505 **CEDRO**	M 5519 **MANDORLO** (ex-*Salice*)	M 5516 **PLATANO**
M 5506 **CILIEGIO**	M 5511 **NOCE**	M 5517 **QUERCIA**

Displacement:	378 tons *standard* (405 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 26½ × 8½ feet
Guns:	2—20 mm., 70 cal. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,200 = 14 kts.
Oil fuel:	25 tons
Radius:	2,500 miles at 10 kts.
Complement:	38

Notes

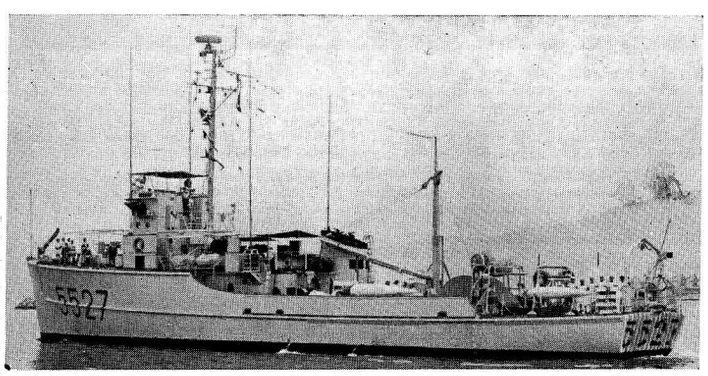
Former American "Bluebird" class coastal motor minesweepers of wooden construction, a new type of vessels constructed throughout of materials with the lowest possible magnetic attraction to attain the greatest possible safety factor when sweeping for magnetic mines. All transferred by the U.S. Navy in 1953-54. Formerly numbered AMS 72-76 79-82, 88-90, 133-137. NATO Pennant Numbers above.

Class Notes

It is reported that *Mandorlo* (ex-U.S.S. *MSC 280*), Italian and NATO pennant number M 5519, which was transferred at Seattle on 16 Dec. 1960, is of slightly different type, see photograph above.

Photograph Notes

A photograph of *Cilegio* appears in the 1956-57 to 1961-62 editions.



SANDALO 1962, *Giorgio Arra*

19 "Agave" Class (Italian built)

M 5531 **AGAVE**	M 5537 **GLICINE**	*M 5521 **BAMBÙ**
M 5532 **ALLORO**	M 5338 **LOTO**	*M 5522 **EBANO**
M 5533 **EDERA**	M 5539 **MIRTO**	*M 5523 **MANGO**
M 5534 **GAGGIA**	M 5540 **TIMO**	*M 5524 **MOGANO**
M 5535 **GELSOMINO**	M 5541 **TRIFOGLIO**	*M 5525 **PALMA**
M 5536 **GIAGGIOLO**	M 5542 **VISCHIO**	*M 5526 **ROVERE**
		*M 5527 **SANDALO**

Displacement:	375 tons *standard* (405 tons *full load*)
Dimensions:	144 (*o.a.*) × 26½ × 8½ feet
Guns:	2—20 mm., 70 cal. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,200 = 14 kts.
Oil fuel:	25 tons
Radius:	2,500 miles at 10 kts.
Complement:	38

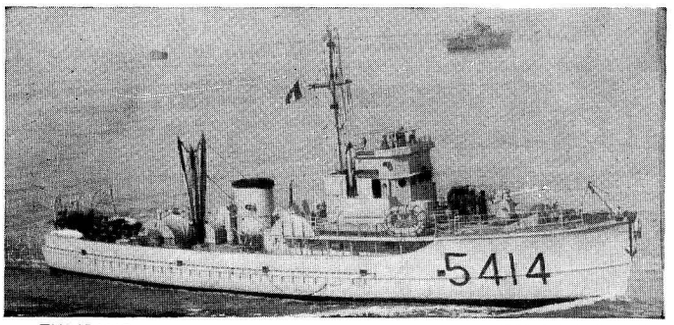
Notes

Non-magnetic type minesweepers of composite wooden and alloy construction similar to those transferred from the United States Navy, but built in Italian yards. Last 7 were all built by C.R.D.A., Monfalcone, and launched in 1956. NATO Pennant Numbers above.

Photograph Notes

A photograph of *Alloro* appears in the 1958-59 to 1961-62 editions.

Coastal Minesweepers—*continued*



TULIPANO 1954, *Ing. L. Accorsi*

17 Ex-American BYMS Types (MSC (o))

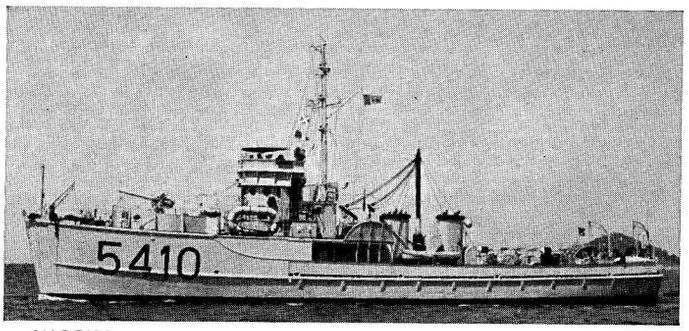
11 "Azalea" Class (One funnel)

M 5401 **AZALEA** (ex-*BYMS 2142*)	M 5408 **MAGNOLIA** (ex-*BYMS 2206*)
M 5402 **BEGONIA** (ex-*BYMS 2073*)	M 5412 **ORCHIDEA** (ex-*BYMS 2037*)
M 5404 **DALIA** (ex-*BYMS 2141*)	M 5413 **PRIMULA** (ex-*BYMS 2278*)
M 5405 **FIORDALISO** (ex-*BYMS 2277*)	M 5414 **TULIPANO** (ex-*BYMS 2194*)
M 5406 **GARDENIA** (ex-*BYMS 2150*)	M 5415 **VERBENA** (ex-*BYMS 2280*)
M 5416 **GLADIOLO**	

Displacement:	290 tons *standard* (335 tons *full load*)
Dimensions:	136 (*o.a.*) × 24½ × 6 feet
Guns:	3—20 mm., 70 cal. AA.
Machinery:	2 General Motors, diesels. B.H.P.: 1,000 = 13 kts.
Oil fuel:	19 tons
Radius:	2,500 miles at 8 kts.
Complement:	33

Notes

Formerly designated DR 401, 402, 403, 411, 404, 417, 405, 406, 407, 416, 408, respectively. Derricks abaft funnel. NATO Pennant Numbers above. In reserve.



NARCISO 1958, *Italian Navy, Official*

6 "Anemone" Type (Two funnels)

M 5400 **ANEMONE** (ex-*BYMS 2009*)	M 5409 **MUGHETTO** (ex-*BYMS 2023*)
M 5403 **BIANCOSPINO** (ex-*BYMS 2012*)	M 5410 **NARCISO** (ex-*BYMS 2024*)
M 5407 **GERANIO** (ex-*BYMS 2014*)	M 5411 **OLEANDRO** (ex-*BYMS 2027*)

Displacement:	245 tons *trials* (338 tons *full load*)
Dimensions:	130 (*w.l.*), 136 (*o.a.*) × 24½ × 8½ (*max.*) feet
Guns:	3—20 mm. AA.
Machinery:	2 General Motors, diesels. 2 shafts. B.H.P.: 1,000 = 14 kts.
Radius:	2,500 miles at 8 kts.
Complement:	30

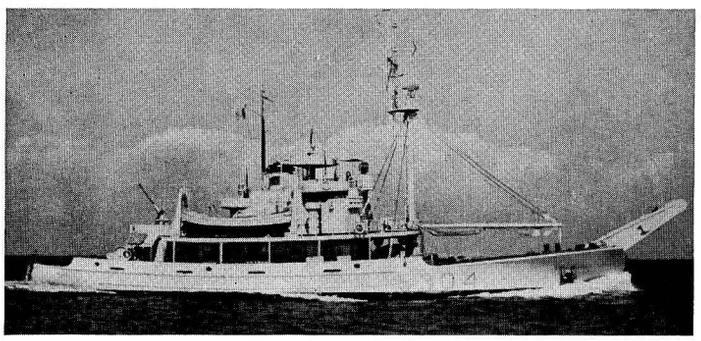
Notes

Formerly designated *DR* 409, 410, 412, 413, 414, 415, respectively. Mainmast derrick between funnels. NATO Pennant Nos. above. In reserve.

General Notes for Both Types

All the above 17 vessels of generally similar particulars were built in 1942-43 and acquired from the U.S. Navy in July 1947. One 20 mm. AA. gun was added in 1956.

NETLAYERS (*Posareti*)



ALICUDI 1960, *Italian Navy, Official*

2 NATO Type

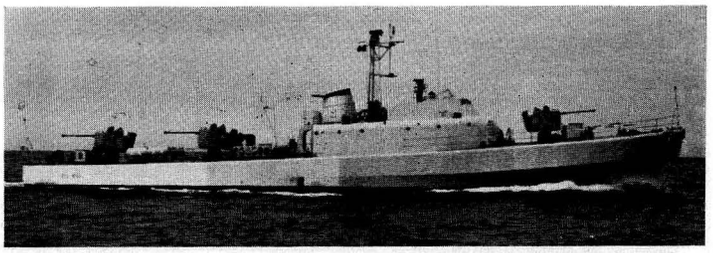
ALICUDI **FILICUDI**

Displacement:	680 tons *standard* (834 tons *full load*)
Dimensions:	151½ (*pp.*), 165½ (*o.a.*) × 33½ × 10½ feet
Guns:	1—40 mm., 70 cal. AA.; 4—20 mm., 70 cal. AA.
Machinery:	Diesel-electric. H.P.: 1,200 = 12 kts.

Notes

Built to the order of NATO. Laid down on 22 Apr. 1954 and 19 July 1954, respectively by Ansaldo, Leghorn, launched on 11 July 1954 and 26 Sep. 1954. Pennant Nos.: A 5304 and A 5305, respectively.

MOTOR GUNBOATS (*Motocannoniere*)



MC 491 — 1962, *Italian Navy, Official*

4 "MC 590" Class Convertible Type (New Construction)

MC 590 **MC 591**

Displacement:	175 tons *standard* (206 tons *full load*)
Dimensions:	131¼ × 21½ × 5½ feet
Guns:	As *Gunboat:* 3—40 mm., 70 cal. or 2—40 mm., 70 cal. and 1—105 mm. rocket launcher. As *Fast Minelayer:* 1—40 mm. A.A. with 8 mines As *Torpedo Boat:* 1—40 mm., 70 cal.
Tubes:	As *Torpedo Boat:* 4—21 inch
Machinery:	Diesel motor and gas turbines = 38 kts. (sea speed)

Notes

In 1960 *MC 590* was ordered from CROA Monfalcone and *MC 591* from Cantieri del Tirreno Riva Trigoso. Special convertible version carries mines or depth charges. Can be converted in 24 hours to: a motor gunboat, a motor torpedo boat, or to a fast minelayer.

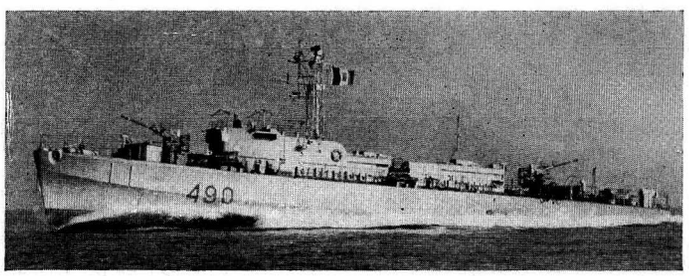
4 "MC 491" Class Convertible Type (New Construction)

MC 491 **MC 492**

Displacement:	170 tons *standard* (190 tons *full load*)
Dimensions:	131¼ × 21 × 5 feet
Guns:	As *Gunboat:* 3—40 mm., 70 cal. or 2—40 mm., 70 cal. and 1 105 mm. rocket launcher As *Torpedo Boat:* 1—40 mm., 70 cal.
Tubes:	As *Torpedo Boat:* 4—17·7 inch
Machinery:	2 diesels and Metrovick gas turbine. 3 shafts. S.H.P.: 11,700 = 40 kts.

Notes

A new type of convertible gunboats, improved version of *MC 490* prototype. Special convertible version (fast minelayer) carries 8 mines and 1—40 mm. gun. Both built by Arsenale M.M. Taranto. *MC 491* was laid down on 4 Jan. 1958 and launched on 22 Nov. 1960. *MC 492* was laid down on the same slip on 22 Nov. 1960. Two more are being built under the 1962 new construction programme.



MC 490 — 1957, *Italian Navy, Official*

1 Convertible Type Rated as MGB

MC 490

Displacement:	160 tons *standard* (190 tons *full load*)
Dimensions:	129½ × 19⅔ × 5 feet
Guns:	2—40 mm. AA.
Tubes:	4—17·7 inch
A/S weapons:	2 D.C.T., 1 D.C. rack
Machinery:	4 diesles, 4 shafts. B.H.P.: 10,000 = 35 kts. (accelerating from 20 kts. to full speed very rapidly)

Notes

MC 490 was authorised in Nov. 1950, launched on 21 Jan. 1954 from C.R.D.A. Monfalcone Yard, and commissioned on 21 July 1955. Two rudders.



MC 485 — 1958, *Italian Navy, Official*

1 Ex-German "S" Type. Rated as MGB

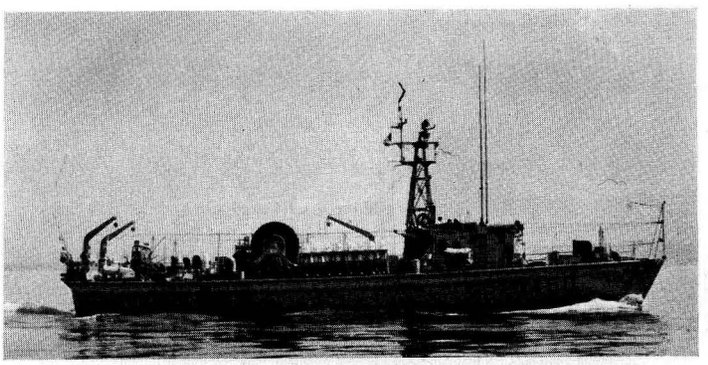
MC 485 (ex-*MS 621*, ex-*Toros*)

Displacement:	124 tons *standard* (130 tons *full load*)
Dimensions:	113½ × 16⅔ × 6⅔ feet
Guns:	2—40 mm., 56 cal. AA.
Tubes:	2—21 inch
Machinery:	3 Mercedes-Benz diesels. 3 shafts. B.H.P.: 7,500 40 kts. (32 kts. sea speed)
Radius:	800 miles at 30 kts.
Complement:	22

Notes

Ex-German S-boat, built by Lürssen Vegesack, then merchant ship *Toros*, purchased and rebuilt in Italy during 1953-54.

INSHORE MINESWEEPERS



ARAGOSTA — 1962, *Giorgo Arra*

20 NATO "Ham" Type (*Dragamine Litoranei*) MSI

"Aragosta" Class

M 5450 **ARAGOSTA**	M 5457 **GAMBERO**	M 5463 **POLIPO** (ex-*Palpo*)
M 5451 **ARSELLA**	M 5458 **GRANCHIO**	M 5464 **PORPORA**
M 5452 **ASTICE**	M 5459 **MITILO**	M 5465 **RICCIO**
M 5453 **ATTINIA**	M 5460 **OSTRICA**	M 5466 **SCAMPO**
M 5454 **CALAMARO**	M 5461 **PAGURO**	M 5467 **SEPPIA**
M 5455 **CONCHIGLIA**	M 5462 **PINNA**	M 5468 **TELLINA**
M 5456 **DROMIA**		M 5469 **TOTANO**

Displacement:	119 tons *standard* (180 tons *full load*) officially revised figures
Dimensions:	106 × 21 × 6 feet
Guns:	1—20 mm. (not mounted)
Machinery:	2 diesels. B.H.P.: 1,000 = 14 kts.
Oil fuel:	15 tons
Radius:	2,000 miles at 9 kts.
Complement:	14

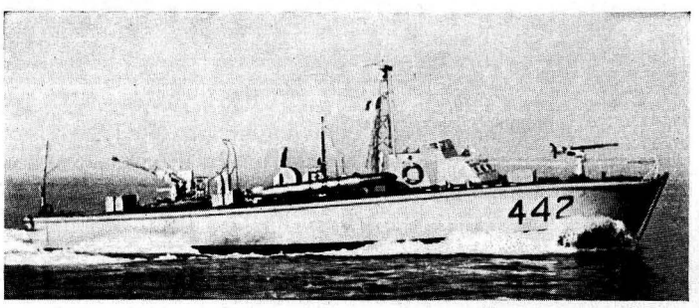
Notes

Similar to British "Ham" class. All constructed in Italian yards for the Itallan Fleet in 1955-57 to the order of NATO. All names of small sea inhabitants. NATO Pennant Nos. above.

Photograph Notes

A photograph of *Riccio* appears in the 1958-59 to 1961-62 editions.

MOTOR TORPEDO BOATS (*Motosiluranti*)



MS 442 — 1958, *Italian Navy, Official*

7 Ex-U.S. Higgins Type

MS 441 (ex-841) **MS 442** (ex-842) **MS 443** (ex-843) **MS 444** (ex-844) **MS 451** (ex-851) **MS 452** (ex-852) **MS 453** (ex-853

Displacement:	43 tons *standard* (51 tons *full load*)
Dimensions:	78 × 20 × 6 feet
Guns:	1—40 mm., 56 cal., 2 or 3—20 mm., 70 cal.
Torpedoes:	2—17·7 inch
Machinery:	3 ASM/185/CRM (Italian) petrol motors, 3 shafts. B.H.P.: 4,500 = 34 kts. (designed sea speed) see *Engineering Notes*
Fuel:	8 tons
Radius:	1,000 miles at 20 kts.
Complement:	15

Notes

Former United States PT boats of the Higgins type. Refitted in Italy during 1949-53. Two 17·7 inch torpedoes carried. No tubes.

Engineering Notes

Before reconstruction these boats were engined with three Packard 12 cyl. petrol motors of 4,050 B.H.P. equal to a sea speed of 29 kts.

9 Italian MS Type

MS 471 (ex-611) **MS 472** (ex-612) **MS 473** (ex-613) **MS 474** (ex-614) **MS 475** (ex-619) **MS 481** (ex-615) **MS 482** (ex-616) **MS 483** (ex-617) **MS 484** (ex-618)

Displacement:	72 tons *standard*
Dimensions:	92 × 15 × 5 feet
Guns:	4—20 mm. M.G. (see *Notes*)
Tubes:	2—17·7 inch
Machinery:	Petrol motors. 3 shafts. B.H.P.: 4,500 = 33 kts. (sea speed)
Radius:	600 miles at 16 kts.

Notes

Built in 1942-43 at C.R.D.A. Monfalcone yard; converted as *MV* (motovedette) with no tubes under the terms of the Peace Treaty. Reconverted in 1951-53. *MS 472* and *MS 473* were refitted as convertible boats in 1960 and *MS 474* and *MS 481* in 1961. The armament of these interchangeable boats is subject to frequent alterations.

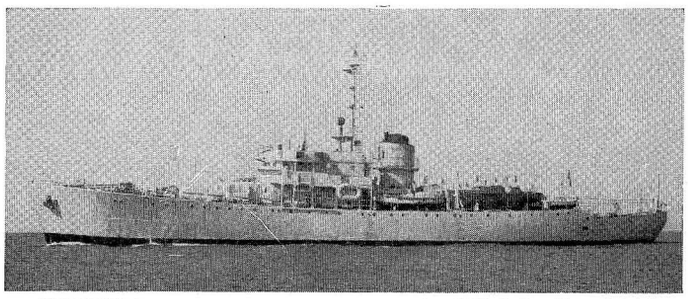
Engineering Notes

The installation of modern motors (three ASM/185/CRM) in *MS 472*, *MS 473*, *MS 474* and *MS 481*, has increased the B.H.P. from 3,450 to 4,500.

Recent Disposals

Of the former United States PT boats of the Elco Vosper type, *MS 421*, *MS 423* and *MS 424* were removed from the effective list in 1958, *MS 433*, *MS 434*, *MS 454*, *MS 461* and *MS 464* in 1959, *MS 422*, *MS 462* and *MS 463* in 1960, and *MS 431* and *MS 432* in 1961

SURVEYING VESSELS (*Navi Idrografiche*)



STAFFETTA 1958, *Italian Navy, Official*

1 Ex-British "Flower" Type Frigate

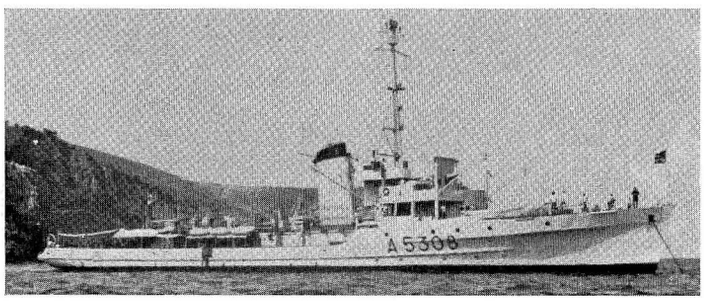
STAFFETTA (ex-*Elbano*, ex-U.S.S. *Prudent* PG 96, ex-H.M.S. *Privet*)

Displacement:	1,020 tons *standard* (1,280 tons *full load*)
Dimensions:	205 (*o.a.*) × 33 × 14½ feet
Guns:	2—20 mm. AA
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts. (actual sea speed 12 kts.)
Boilers:	2 cylindrical
Oil fuel:	250 tons
Radius:	5,500 miles at 8 kts.

Notes

Former British "Flower" class corvette (later reclassified as a frigate). Built by Morton Engine & D.D. Co., Montreal, Canada, engined by Port Arthur S.B. Co. Laid down on 14 Aug. 1942, launched on 4 Dec. 1942, completed on 16 Aug. 1943. Converted for hydrographic duties and commissioned in 1953. NATO Pennant No.: A 5307.

The surveying vessel *Azio* was discarded in 1957.



DAINO 1962, *Italian Navy, Official*

1 Ex-German "Daino" Type Minesweeper

DAINO (ex-*B* 2, ex-*M* 802)

Displacement:	605 tons *standard* (838 tons *full load*)
Dimensions:	224 × 29½ × 7¼ feet
Guns:	Removed (see *Notes*)
A/S weapons:	Removed (see *Notes*)
Machinery:	Triple expansion. 2 shafts. 2,400=14 kts.
Boilers:	2 Schulz-Marine
Oil fuel:	142 tons
Complement:	80

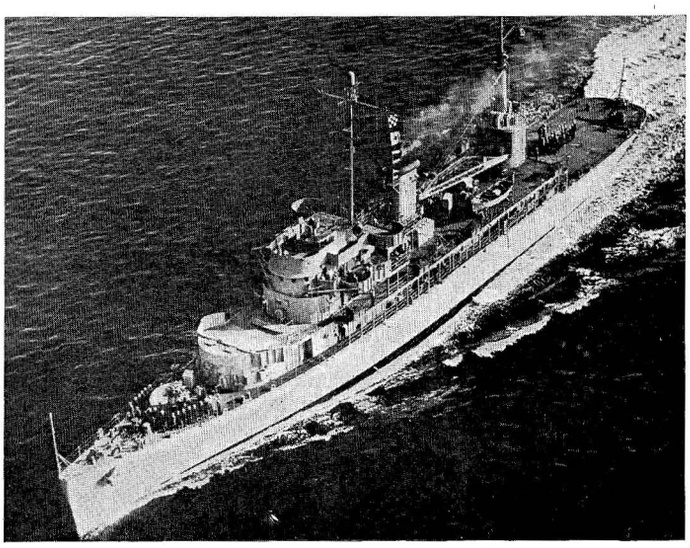
Notes

Ex-German coal burning minesweeper. Acquired on 20 July 1949, when she was classed as "Nave Ausiliarie" (Auxiliary Ship) but subsequently converted to burn oil fuel and classed as "Nave Pattuglia" (Patrol Ship). Reclassified as a minesweeper in 1954 (Pennant No. M 5339). Again reclassified as a coastal escort vessel (*Nave Scorta Costiera*) on 1 June 1956 and as *Corvetta* in 1959 with F pennant number 542. Reclassified as a surveying vessel in 1960 and her armament of 1—3·9 inch gun, 3—40 mm. AA. guns and 2 D.C.T. removed.

Class Notes

Sister ship *Antilope* (ex-*B* 1, ex-*M* 328) was removed from the effective list in 1958, and sister ship *Gazzella* was reclassified as a training ship in 1960 (see later page).

TENDERS (*Navi appoggio*)



PIETRO CAVEZZALE 1958, *Italian Navy, Official*

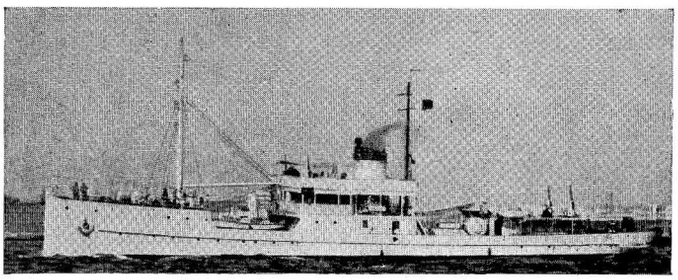
1 Ex-U.S. AVP Type

PIETRO CAVEZZALE (ex-U.S.S. *Oyster Bay*, *AVP* 28, ex-*AGP* 6)

Displacement:	1,766 tons *standard* (2,800 tons *full load*)
Dimensions:	300 (*w.l.*), 311⅜ (*o.a.*) × 41 × 13½ (*max.*) feet
Guns:	2—40 mm., 56 cal. AA.
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 6,080=16 kts.
Oil fuel:	400 tons
Radius:	10,000 miles at 11 kts.
Complement:	200

Notes

Former American seaplane tender (previously motor torpedo boat tender) of the "Barnegat" class, built at Lake Washington Shipyard and launched on 7 Sep. 1942. Recommissioned and transferred from the United States Navy to the Italian Navy under the Mutual Defense Assistance Program on 23 Oct. 1957 and renamed. She is used for special duties, as a tender for frogmen and similar operations. Pennant number A 5301.



ERCOLE 1955, *Italian Navy, Official*

1 General Purpose Type

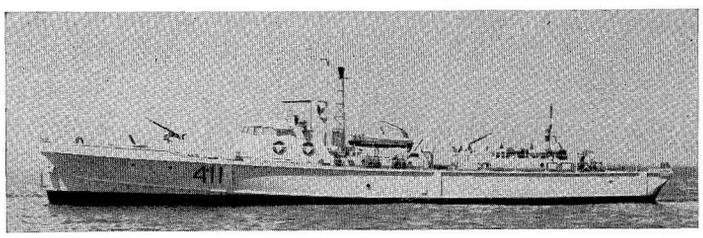
ERCOLE (ex-*Ciclope*)

Displacement:	763 tons *standard* (1,050 tons *full load*)
Dimensions:	180½ × 29½ × 12 feet
Guns:	4—20 mm.
Machinery:	2 triple expansion. 2 shafts. I.H.P.: 1,900=12 kts.
Boilers:	2

Notes

Launched in 1903. Multi-purpose depot ship, diving tender and fleet support ship. NATO Pennant No.: A 5302.

SURVEYING BOATS



DV 411 1958, *Italian Navy, Official*

2 DV Type

DV 408 (ex-114) **DV 409** (ex-116)

Displacement:	101 tons *standard* (110 tons *full load*)
Dimensions:	111½ × 19 × 4½ feet
Machinery:	2 petrol motors. 2 shafts. B.H.P.: 2,300=15 kts.
Fuel:	7 tons
Radius:	2,000 miles at 13 kts.

Notes

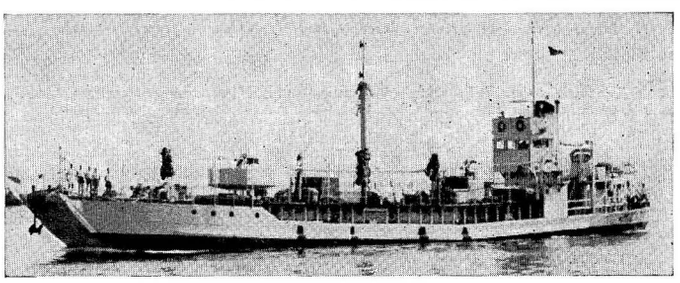
Inshore Patrol Boats (*Dragamine di Sorveglianza—D.V.*), designed and built by Cantiere Baglietto, Varazze, Italy. Both launched in 1945. Formerly used for coastal patrols, but now employed as surveying boats for hydrographical duties, with guns and other weapons removed.

Recent Disposals

DV 133 and *DV* 135 were scrapped in Aug. 1953. *DV* 401, *DV* 405, *DV* 406, *DV* 407 and *DV* 415 were removed from the effective list in 1957-58. *DV* 402, *DV* 403, *DV* 404, *DV* 411, *DV* 412, *DV* 413 and *DV* 414 were scrapped in 1959-60.

All seven boats of the *VAS* (*Vedette-Sommergible*) type, viz. *VAS* 491, *VAS* 492, *VAS* 493, *AS* 494, *VAS* 495, *VA S* 496 and *VAS* 497, were removed from the effective list in 1957.

REPAIR CRAFT (*Motoofficine Costiere*)



MOC 1201 1955, *A. & J. Pavia*

7 Ex-British LCT(3) Type

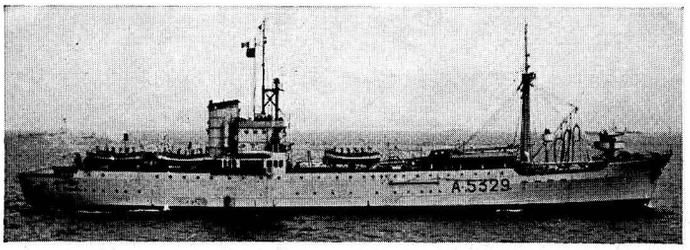
MOC 1201 **MOC 1202** **MOC 1203** **MOC 1204** **MOC 1205** **MOC 1207** **MOC 1208**

Displacement:	350 tons *standard* (640 tons *full load*)
Dimensions:	192 × 31 × 7 feet
Guns:	2—40 mm., 2—20 mm. (2 ships have 2—40 mm. and 1 ship has 3—20 mm.)
Machinery:	Diesel=8 kts.

Notes

Former British landing craft of the LCT (3) type converted to repair craft. MOC 1207 and MOC 1208 are ammunition transports. Now carry new NATO Pennant Nos.: A 5331 to 5338, respectively.

TRANSPORTS (*Navi Trasporto*)



STROMBOLI (as reconstructed with deck extended forward — 1959, *Captain Aldo Fraccaroli*

2 OTO Type

STROMBOLI **VESUVIO**

Displacement:	2,843 tons *light*, 4,713 tons *standard* (6,160 tons *full load*)
Dimensions:	334⅛ (*o.a.*) × 46 × 21⅝ feet
Guns:	4—40 mm., 56 cal.
Machinery:	One set double reduction geared turbines. S.H.P.: 3,700 = 13·5 kts.
Boilers:	3 water tube. Oil fuel
Radius:	8,150 miles at full load

Notes
Both built by Odero-Terni-Orlando yard, La Spezia. *Stromboli* was completed in 1948 and *Vesuvio* in 1954. *Stromboli* is fitted out as Flagship of the Logistic Support Group of the Fleet. The 3·9 inch gun aft has been removed. NATO Pennant Nos.: A 5329 and A 5330, respectively.

1 Ex-U.S. "Andromeda" Class

ETNA (ex-U.S.S. *Whiteley*, AKA 91)

Displacement:	7,430 tons *light* (14,200 tons *full load*)
Measurement:	5,145 tons *gross*, 7,700 tons *deadweight*
Dimensions:	435 (*w.l.*), 459½ (*o.a.*) × 63 × 26½ (*max.*) feet
Machinery:	General Electric geared turbines. 1 shaft. S.H.P.: 6,000 = 16·5 kts.
Boilers:	2 Combustion Engineering

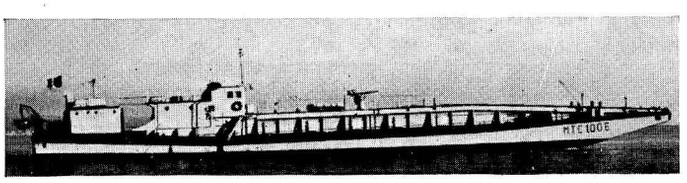
Notes
Former United States attack cargo ship. Built by Moore D.D. Co., Oakland, California. Launched on 22 June 1944. First commissioned on 21 Sep. 1944. C2—S—B1 type. Transferred to Italy at Norfolk, Virginia in Feb. 1962 under MAP. Rated as *Nave trasporto mezzi da sbarco*. Pennant No.: A 5328.

TARANTOLA

Displacement:	512 tons
Dimensions:	157½ × 22 × 6 feet
Machinery:	Tosi diesel. B.H.P.: 380 = 10·5 kts. Sea speed 9 kts.

Notes
The ex-German type transport *Montegrappa* (ex-*KT* 10), NATO Pennant No.: A 5328, was removed from the effective list in 1958.

MOTOR TRANSPORTS (*Mototrasporti*)



MTC 1006 — 1959, *Giorgio Arra*

14 Ex-German MFP Type

MTC 1001	**MTC 1004**	**MTC 1007**	**MTC 1010**	**MTC 1102**
MTC 1002	**MTC 1005**	**MTC 1008**		**MTC 1103**
MTC 1003	**MTC 1006**	**MTC 1009**	**MTC 1101**	**MTC 1104**

Displacement:	240 tons *standard*
Dimensions:	164 × 21⅓ × 5⅜ feet
Guns:	2 or 3—20 or 37 mm.
Machinery:	2 or 3 diesels. B.H.P.: 500 = 10 kts.

Notes
Moto-Trasporti Costieri. MTC 1001—1010 are Italian MZ (*Motozattere*) type. MTC 1101-1104 are ex-German built in Italy. NATO Pennant Nos.: A 5341 to A 5359, respectively.

20 Ex-U.S. LCM Type

MTM 9901	**MTM 9905**	**MTM 9909**	**MTM 9913**	**MTM 9917**
MTM 9902	**MTM 9906**	**MTM 9910**	**MTM 9914**	**MTM 9918**
MTM 9903	**MTM 9907**	**MTM 9911**	**MTM 9915**	**MTM 9919**
MTM 9904	**MTM 9908**	**MTM 9912**	**MTM 9916**	**MTM 9920**

Displacement:	20 tons *standard*
Dimensions:	49½ × 14⅜ × 4¼ feet
Guns:	2—20 mm. AA
Machinery:	Diesels. Speed: 10 kts.

Notes
Rated as *Moto-Trasporti Medi*. Former American landing craft of the LCM type.

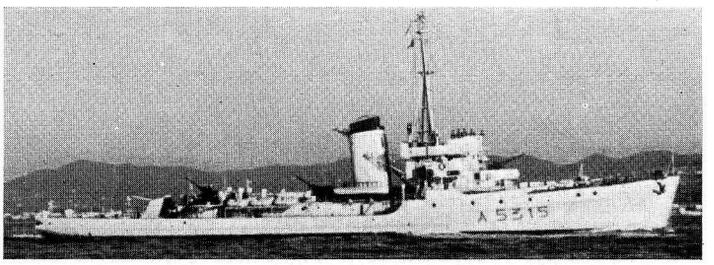
25 Ex-U.S. LCVP Type

MTP 9701	**MTP 9706**	**MTP 9711**	**MTP 9716**	**MTP 9721**
MTP 9702	**MTP 9707**	**MTP 9712**	**MTP 9717**	**MTP 9722**
MTP 9703	**MTP 9708**	**MTP 9713**	**MTP 9718**	**MTP 9723**
MTP 9704	**MTP 9708**	**MTP 9714**	**MTP 9719**	**MTP 9724**
MTP 9705	**MTP 9710**	**MTP 9715**	**MTP 9720**	**MTP 9725**

Displacement:	8 tons *standard*
Dimensions:	36½ × 10¾ × 3 feet
Guns:	2 M.G.
Machinery:	Diesels. Speed: 10 kts.

Notes
Rated as *Moto-Trasporti Piccoli*. Former American landing craft of the LCVP type. MTB 9726 of 10 tons displacement and similar characteristics is of Italian construction.

TRAINING SHIPS (*Navi Scuola*)



GAZZELLA — 1962, *Italian Navy, Official*

GAZZELLA (ex-*B* 3, ex-*M* 801)

Displacement:	605 tons *standard* (821 tons *full load*)
Dimensions:	224 × 29½ × 7¼ feet
Machinery:	Triple expansion. 2 shafts. 2,400 = 14 kts.
Boilers:	2 Schulz-Marine
Oil fuel:	142 tons

Notes
Ex-German coal burning minesweeper. Acquired on 20 July 1949, when she was classed as "Nave Ausiliarie" (Auxiliary Ship) but subsequently converted to burn oil fuel and classed as "Nave Pattuglia" (Patrol Ship). Reclassified as a minesweeper in 1954 (Pennant No. 5338). Again reclassified as a coastal escort vessel (*Nave Costiera*) on 1 June 1956 and as *Corvette* in 1959, with F pennant number 541. Reclassified as a training ship in 1960, armament being removed, and used for the training of cadets of the Accademia Navale. Pennant No. A 5308. Sister ship *Antilope* (ex-*B* 1, ex-*M* 328) was removed from the effective list in 1958, and sister ship *Daino* was reclassified as a surveying vessel in 1960 (see earlier page).

AMERIGO VESPUCCI

Displacement:	3,543 tons *standard* (4,146 tons *full load*)
Dimensions:	229½ (*pp.*), 270 (*o.a. hull*), 330 (*o.a.* bowsprit) × 51 × 22 feet
Guns:	4—3 inch, 50 cal.; 1—20 mm.
Machinery:	Two Fiat diesels, with electric drive to 2 Marelli motors. 1 shaft. H.P.: 1,900 = 10·5 kts.
Complement:	400 + 150 midshipmen

Notes
Built at Castellammare. Launched on 22 March 1930. Sail area: 22,600 sq. ft. Hull, masts and yards are of steel. Loud speakers and echo-sounding gear are included in her equipment. Photograph in the 1957-58 edition. NATO Pennant No.: A 5312.

PALINURO (ex-*Commandant Louis Richard*)

Displacement:	1,042 tons *standard* (1,450 tons *full load*)
Measurement:	858 tons *gross*
Dimensions:	204 (*pp.*), 226⅓ (*o.a.*) × 32 × 18⅜ feet
Machinery:	Diesel. 1 shaft. B.H.P.: 375 = 7 kts.

Notes
Barquentine. Ex-French vessel, launched in 1920. Purchased in 1950. Rebuilt and recommissioned in the Italian Navy on 16 July 1955. NATO Pennant No. A 5311. The sail training ship *Ebe* was disposed of in 1960.

CORSARO II

Notes
Special yacht for sail training and oceanic navigation. R.O.R.C. class. Built by Costaguta Yard, Voltri, in 1959-60. 41 tons. 68¼ × 15⅓ × 9½ feet. 1 Mercedes-Benz diesel. 96 H.P. Sail area 2,117 sq. ft.

LIGHTHOUSE TENDERS

BUFFOLUTO

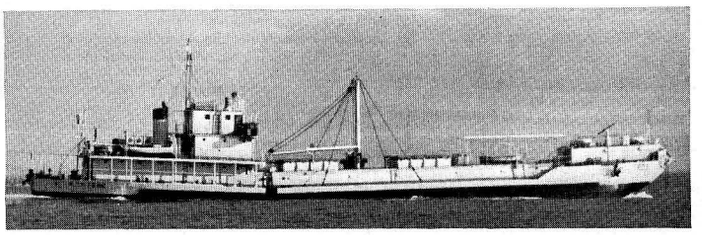
Displacement:	930 tons *standard*
Dimensions:	172½ (*pp.*), 184¼ (*o.a.*) × 29½ × 11 feet
Machinery:	2 triple expansion. I.H.P.: 1,400 = 10 kts.
Boilers:	2 Thornycroft

Notes
Launched in 1924. NATO Pennant No.: A 5327. Sister ship *Panigaglia* blew up in July 1947.

RAMPINO

Displacement:	350 tons *standard* (645 tons *full load*)
Dimensions:	158¾ × 24½ × 13 feet
Machinery:	Triple expansion = 7 kts.

Notes
Buoy tender. Of netlayer type. Classed as *Nave Ausiliarie* with NATO Pennant No. A 5309.



MFT 1302 — *Added* 1959, *Italian Navy Official*

3 Ex-British LCT (3) Type

MTF 1301 **MTF 1302** **MTF 1303**

Displacement:	296 tons *light* (700 tons *full load*)
Dimensions:	192 × 31 × 7 feet
Guns:	1—40 mm., 56 cal. AA., 2—20 mm., 70 cal. AA.
Machinery:	Diesel. 1 shaft. Speed = 8 kts.

Notes
Converted landing craft of the British LCT (3) type. Lighthouse motor transports (*Moto-Trasporti Fari*). NATO Pennant Nos.: A 5361, A 5362 and A 5363.

OILERS (*Navi Cisterna per Nafta*)

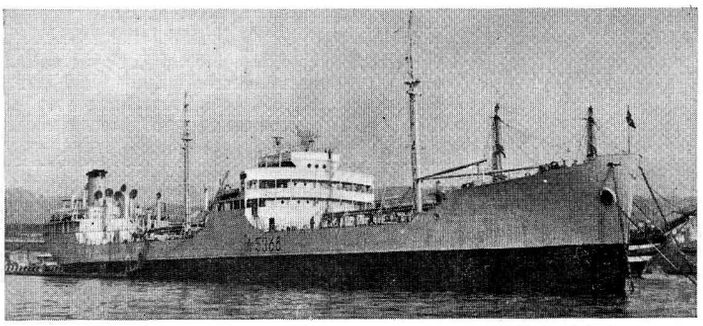
DALMAZIA

Displacement:	1,466 tons *light*, 3,216 tons *standard* (5,000 tons *full load*)
Dimensions:	260 × 32½ × 15½ feet
Guns:	1—4·7 inch, 2—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,450 = 10 kts.
Boilers:	2 Thornycroft oil-fired
Cargo:	1,800 tons

Notes
Built by Quarnaro Yard, Fiume, launched in 1922. Formerly classified as a water carrier. Reclassified as a fleet oiler in 1958. NATO Pennant No. : A 5367. Photograph in the 1957-58 to 1959-60 editions.

There is also ex-U.S.S. *YO* 247, a small oiler transferred from the United States to Italy uder MAP.

Oilers—*continued*



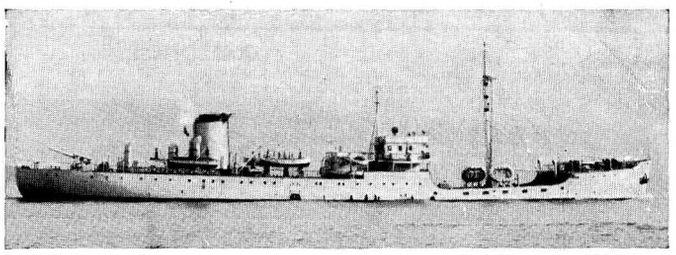
STEROPE 1960, *Erminio Bagnasco*

STEROPE (ex-*Enrico Insom*)

Displacement:	5,350 tons *light* (21,800 tons *full load*)
Dimensions:	523½ (*o.a.*) × 68 × 30⅝ feet
Machinery:	Turbo-electric. S.H.P.: 6,000 = 15 kts.
Boilers:	2 Babcock & Wilcox

Notes
Former United States built oiler of the T 2 type acquired by the Italian Navy in 1959 and entered La Spezia Navy Yard in mid-April 1959 for refitting. NATO Pennant No.: A 5368.

WATER CARRIERS (*Navi Cisterna per Acqua*)



VOLTURNO (new radar mast) 1957, *Italian Navy, Official*

PO **VOLTURNO**

Displacement:	1,556 tons *light*, 3,541 tons *standard* (6,000 tons *full load*)
Dimensions:	270⅜ × 38¾ × 16¾ feet
Guns:	1—4 inch, 35 cal., 2—40 mm, 2—20 mm. (*Po*), 1—4·7 inch, 45 cal., 2—40 mm., 2—20 mm. AA. (*Volturno*)
Machinery:	Triple expansion. I.H.P.: 1,700 = 11·5 kts.
Boilers:	2 oil-fired watertube
Oil fuel:	226 tons

Notes
Po was launched by Cant. Nav. Riuniti, Ancona, on 21 Dec. 1936. *Volturno* was built by Cantieri del Tirreno, Riva Trigoso, in 1936-37, and rebuilding was completed in 1951. *Volturno* has a new radar mast (see photo). NATO Pennant Nos.: A 5365 and A 5366, respectively. Cargo capacity: 2,200 tons.

ADIGE (ex-*YW* 92) **ISONZO** (ex-*YW* 77) **TANARO** (ex-*YW* 99)
FLEGETONTE (ex-*YW* 95) **TICINO** (ex-*YW* 79)

Displacement:	463 tons *standard* (1,470 tons *full load*)
Guns:	3—20 mm., 70 cal. AA.
Machinery:	2 diesels. H.P.: 315 = 8 kts.

Notes
Ex-U.S. Army. NATO Pennant Nos.: A 5369, A 5371, A 5372, A 5376 and A 5377, respectively. Water capacity: 850 tons.

SESIA

Displacement:	1,050 tons
Dimensions:	213¼ × 33 × 11¼ feet
Guns:	3—20 mm., 70 cal. AA.
Machinery:	Fiat diesels. 2 shafts. B.H.P.: 600 = 8 kts.

Notes
Built by Adriatico. Launched in 1933. Fitted for minelaying. NATO Pennant No.: A 5375

METAURO

Displacement:	592 tons
Dimensions:	133½ × 26¼ × 10½ feet
Guns:	1—20 mm., 70 cal. AA.
Machinery:	Tosi diesels. B.H.P.: 400 = 8 kts.

Notes
Built by C.N. Quarnaro-Fiume. Launched in 1933. NATO Pennant No.: A 5373.

ARNO

Displacement:	634 tons
Dimensions:	138¾ × 26 × 10 feet
Guns:	1—20 mm., 70 cal. AA.
Machinery:	1 Fiat diesel. B.H.P.: 350 = 8 kts.

Notes
Built by Odero-Terni-Orlando, La Spezia. Launched in 1929. NATO Pennant No.: A 5370.

MINCIO

Displacement:	645 tons
Dimensions:	138½ × 26½ × 10 feet
Guns:	1—20 mm., 70 cal. AA.
Machinery:	Tosi diesels. B.H.P.: 350 = 8 kts.

Notes
Built in Venice. Launched in 1929. NATO Pennant No.: A 5374.

TIMAVO

Displacement:	265 tons
Machinery:	1 Tosi diesel. B.H.P.: 200 = 8 kts.

Notes
Built by C.O.M.I., Venezia, 1926. Sister ship *Vipacco* was removed from the effective list 1961.

FRIGIDO (ex-*Fukuju Maru*)

Displacement:	398 tons
Dimensions:	116½ × 21½ × 10 feet
Guns:	2 M.G.
Machinery:	Triple expansion. I.H.P.: 221 = 7 kts.
Boiler:	1 cylindrical

Notes
Built by Osaka. Launched in 1912. Purchased in 1916.

OFANTO

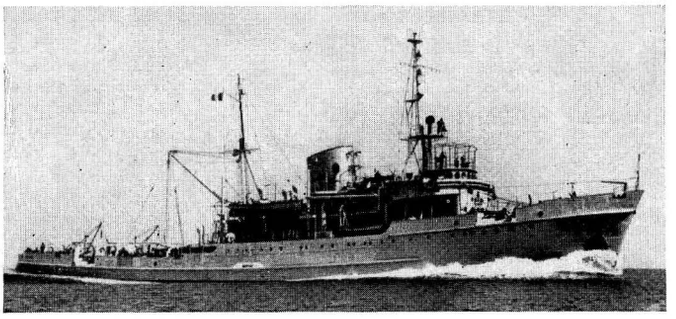
Displacement:	250 tons
Dimensions:	105½ × 19⅜ × 7½ feet
Machinery:	1 Triple expansion. I.H.P.: 165 = 6 kts.
Boilers:	1

Notes
Built by S.E.B., Riva Trigoso, 1913-14.

LENO **SIMETO** **SPRUGOLA** **STURA** **TRONTO**

Notes
Small water carriers of 270, 167, 212, 126 and 110 tons displacement, respectively

RESCUE AND SALVAGE SHIP (*Nave Salvataggio*)



PROTEO 1957, *courtesy Dott. Ing. Luigi Accorsi*

PROTEO (ex-*Perseo*, ex-*Proteo*)

Displacement:	1,865 tons *standard* (2,147 tons *full load*)
Dimensions:	220½ (*pp.*), 248 (*o.a.*) × 38 × 15¾ (*mean*), 21 (*max.*) feet
Guns:	1—3·9 inch AA., 2—20 mm., 70 cal.
Machinery:	2 diesels. B.H.P.: 4,800 = 16 kts. (see *Notes*)
Radius:	7,500 miles at 13 kts.

Notes
Laid down at Cantieri Navali Riuniti, Ancona, in 1943. Suspended in 1944. Seized by Germans and transferred to Trieste. Construction recommenced at Cantieri Navali Riuniti, Ancona, in 1949. Diesels at 250 r.p.m. drive a single propeller through hydraulic couplings and reduction gearing. NATO Pennant No.: A 5310.

TUGS (*Rimorchiatori*)

CIRCEO **TAVOLARA**

Notes
Both completed in 1955.

AUSONIA **PANARIA**

Displacement:	240 tons

Notes
Both launched in 1948.

CICLOPE **TITANO**

Displacement:	1,200 tons
Dimensions:	157½ × 32¾ × 13 feet
Machinery:	Triple expansion. 1 shaft. I.H.P.: 1,000 = 8 kts.

Notes
NATO Pennant Nos.: A 5319 and A 5320, respectively. *Titano* was launched in 1948. Sister ship *Nereo* was discarded in 1957.

MISENO **MONTE CRISTO**

Displacement:	285 tons

Notes
Former United States Navy harbour tugs.

GAGLIARDO **ROBUSTO**

Displacement:	389 tons *standard* (506 tons *full load*)
Machinery:	I.H.P.: 1,000 = 8 kts.

Notes
Both launched in 1939. NATO Pennant Nos.: A 5322 and A 5323, respectively.

PORTO EMPEDOCLE

Displacement:	330 tons *standard*
Machinery:	I.H.P.: 500 = 11 kts.

Notes
Launched in 1934. Employed as a harbour tug. Armament of 1—3 inch gun removed.

PORTO FOSSONE **PORTO RECANATI** **PORTO VECCHIO**
PORTO PISANO **PORTO ROSSO** **SALVORE**
PORTO TORRES **TINO**

Displacement:	226 to 270 tons
Dimensions:	88¾ × 22 × 10 feet
Machinery:	I.H.P.: 600 = 9 kts.

Notes
All launched in 1936-37, except *Tino*, 1931. Principally employed as harbour tugs. Armament of 1—3 inch gun removed.

ATLETA (ex-*LT* 152) **FORTE** (ex-*LT* 159)
COLOSSO (ex-*LT* 214) **TENACE** (ex-*LT* 154)

Displacement:	525 tons *standard* (835 tons *full load*)
Dimensions:	142¾ × 32¾ × 11 feet
Machinery:	2 diesel—electric. H.P.: 690 = 11 kts.

Notes
Ex-U.S. Army. NATO Pennant Nos.: A 5318, A 5320, A 5321 and A 5324, respectively.

ATLANTE

Displacement:	355 tons
Dimensions:	121½ × 23 × 9 feet
Machinery:	I.H.P.: 900 = 11 kts.

Notes
Launched in 1928. Sunk by collision in harbour at Genoa in Jan. 1948, but later salvaged Armament of 1—3 inch gun removed. NATO Pennant No.: A 5317.

LIPARI **VENTIMIGLIA**

Displacement:	254 tons (*Lipari*), 230 tons (*Ventimiglia*)
Dimensions:	108½ × 23 × 7½ feet (*Lipari*)
Machinery:	H.P.: 500 (*Lipari*) = 9 kts., 550 (*Ventimaglia*) = 10 kts.

General Notes
Lipari was built in 1917. There are also 55 harbour tugs, ferry tugs, lagoon tugs, numbered tugs and minor tugs.

IVORY COAST

PATROL BOAT

PATIENCE (ex-*P* 699, ex-*CH* 71, ex-U.S. *SC* 1337)

Displacement:	110 tons *standard* (138 tons *full load*)
Dimensions:	107½ (*w.l.*), 110⅝ (*o.a.*) × 17 × 6½ feet
Guns:	1—40 mm. AA., 3—20 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,000 = 15 kts.
Oil fuel:	15 tons
Radius:	2,000 miles at 10 kts., 1,150 miles at 15 kts.
Complement:	25

Notes
Former American wooden submarine chaser. Transferred from U.S.A. to France on 29 Dec. 1943, and from France to Ivory Coast in 1961.

JAPAN

Administration

Chief of the Maritime Staff, Defence Agency:
Admiral Sadayoshi Nakayama.

Commander, Self-Defence Fleet:
Admiral Suguru Suzuki.

Chief Staff Officer, Maritime Self-Defence Force:
Captain Zenichiro Kato.

Defence Attaché in London:
Colonel Mitio Utsunomiya.

New Construction Programmes

1962: 1 destroyer (2,000 tons, new type);
1 submarine chaser (450 tons);
2 minesweepers (340 tons);
1 Auxiliary vessel (45 tons).

1961: 2 frigates (1,450 tons " B " type);
1 submarine (1,500 tons, new type);
2 submarine chasers (450 tons);
2 minesweepers (340 tons).

(For 1960, 1959 and 1958 programmes, see 1960-61 edition)

Five Year Defence Plan

Under the second five-year defence programme Japan is to build: 4 destroyers of 3,000 tons, 7 destroyers of 2,000 tons, 1 training ship of 3,500 tons, 5 submarines of 1,600 tons, 1 minelayer of 2,000 tons and 1 experimental hydroplane.

Personnel

1961: 32,097 (2,918 officers and 29,179 ratings)
1962: 37,000 (3,360 officers and 33,640 ratings)

Mercantile Marine

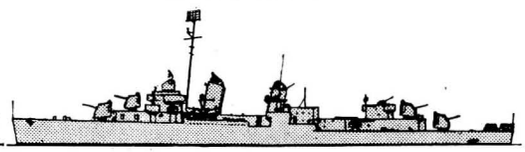
Lloyd's Register of Shipping:
3,733 vessels of 7,953,984 tons *gross*

Silhouettes

Scale: 150 ft.=1 inch



AKIZUKI, TERUZUKI



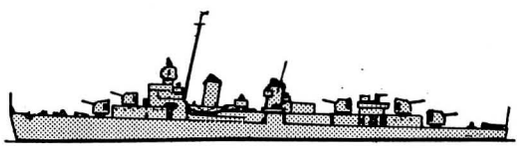
ARIAKE (after reconstruction)



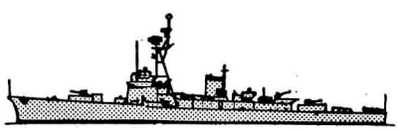
AKEBONO



HARUSAME, MURASAME, YUDACHI



YUGURE (before reconstruction)



IKAZUCHI, INAZUMA



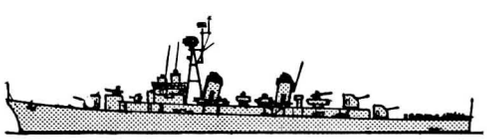
AYANAMI *Class*



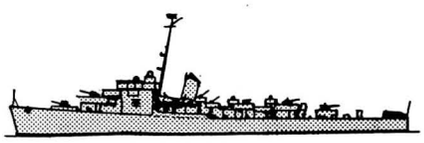
ASAKAZE, HATAKAZE



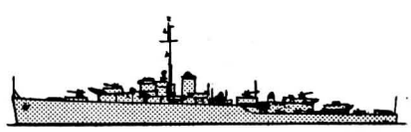
WAKABA



HARUKAZE, YUKIKAZE



ASAHI, HATSUHI



BUNA *Class*

DESTROYERS

1+3 New Construction Guided Missile Armed Type

AMATSUKAZE

Builders:	Mitsubishi, Nagasaki
Displacement:	3,000 tons *standard*
Dimensions:	426×44½×14½ feet
Guided missiles:	" Tartar " surface-to-air weapons
Machinery:	Geared turbines. 2 shafts.

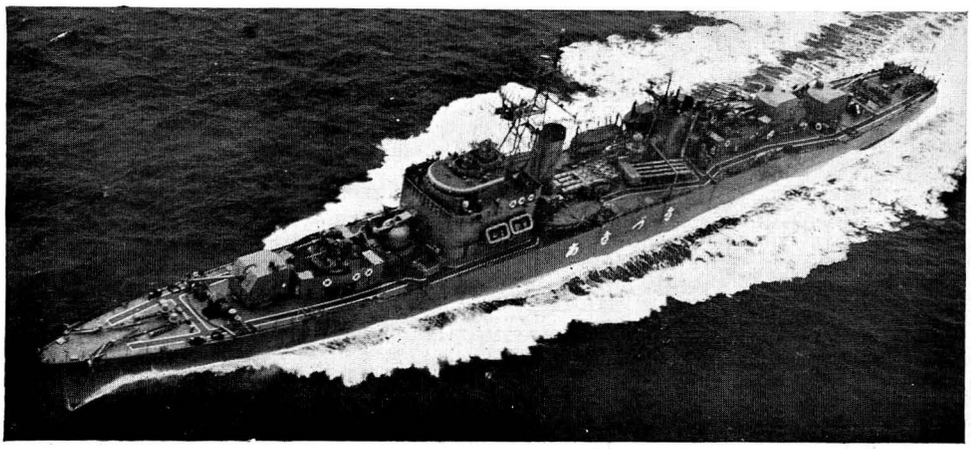
Notes
Provided under the 1960 new construction programme. To be equipped with "Tartar" surface-to-air guided missiles supplied from the U.S.A. To be completed in 1965 (officially revised estimate). *Amatsukaze* means "Heaven Wind".

2 " Moon " Class (U.S. " Off-shore " Programme)

	AKIZUKI	**TERUZUKI**
Name:	*Akizuki*	*Teruzuki*
Pennant No.:	DD 161	DD 162
Builders:	Mitsubishi Zosen Co., Nagasaki	Shin Mitsubishi Jyuko Co., Kobe
Laid down:	31 July 1958	15 Aug. 1958
Launched:	26 June 1959	24 June 1959
Completion:	13 Feb. 1960	29 Feb. 1960

Displacement:	2,350 tons *standard*, 2,890 tons *normal*
Dimensions:	337½ (*w.l.*), 387½ (*o.a.*)×39⅓×13⅛ feet
Guns:	3—5 inch, 54 cal. d.p. (single); 4—3 inch, 50 cal. AA. (two twin)
Tubes:	4—21 inch (quadrupled)
A/S weapons:	2 hedgehogs, 2 Y-guns, 1 rocket launcher, 2 depth charge throwers
Machinery:	2 sets Mitsubishi-Escher-Weiss (*Akizuki*), Westinghouse (*Teruzuki*) geared turbines. 2 shafts. S.H.P.: 45,000=32 kts.
Boilers:	2 Mitsubishi CE type
Complement:	330

Notes
Destroyers of a new design with a long forecastle hull received from the United States as part of the 1957 United States Military Aid Program, but built in Japanese shipyards under an " off-shore " procurement agreement. U.S. Navy hull numbers DD 960 and DD 961. They were designed as flotilla leaders to serve as senior officers' ships and are equipped with 2 homing torpedo launchers, two radar systems and two sonar installations. The *Akizuki* is the flagship of the Self-Defence Fleet, Japan's Maritime Self-Defence Force. " Akizuki " means Autumn Moon; " Teruzuki " means Shining Moon.



AKIZUKI 1961, *Official*

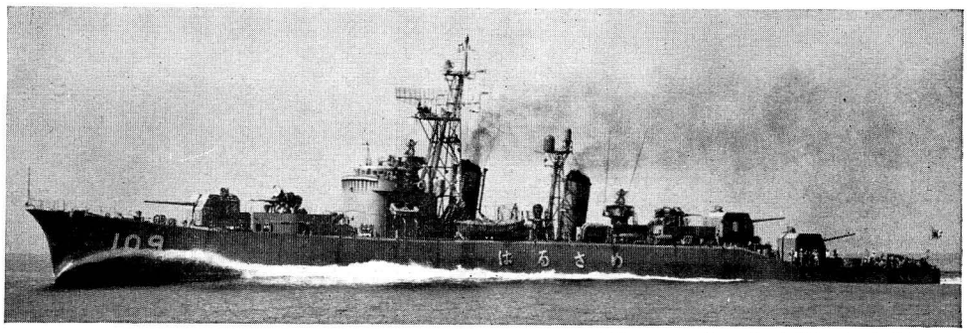
Destroyers—*continued*

Anti-Aircraft ("A" Type DDA)
3 "Rain" Class

HARUSAME **MURASAME** **YUDACHI**

Displacement:	1,800 tons *standard* (2,500 tons *full load*)
Dimensions:	360 × 36 × 12¼ feet
Guns:	3—5 inch, 54 cal. d.p.; 4—3 inch, 50 cal. AA. (two twin)
A/S weapons:	8 short anti-submarine torpedoes, 1 hedgehog, 2 Y-guns, 1 depth charge rack
Machinery:	2 sets geared turbines. 2 shafts. S.H.P.: 30,000 = 30 kts.
Boilers:	2

Name:	*Harusame*	*Murasame*	*Yudachi*
Pennant No.:	DD 109	DD 107	DD 108
Builders:	Uraga Dock Co., Yokosuka	Mitsubishi Zosen Co., Nagazaki	Ishikawa-jima Jyuko Co., Tokyo
Laid down:	17 June 1958	17 Dec. 1957	16 Dec. 1957
Launched:	18 June 1959	31 July 1958	29 July 1958
Completed:	15 Dec. 1959	28 Feb. 1959	25 Mar. 1959



HARUSAME — 1960, *courtesy Uraga Dock, Yokosuka, Builders*

General Notes

Murasame and *Yudachi* were built under the 1956 Programme. They are named after the rains. *Harusame* was built under the 1957 Programme. "Harusame" means Spring Rain. "Murasame" means Village Rain or Shower.

Engineering Notes

Murasame has Mitsubishi-Escher-Weiss turbines and Mitsubishi CE type boilers by Mitsubishi, Nagasaki Co. *Yudachi* has Kanpon-Ishikawajima type turbines and Ishikawajima FW-D type boilers by Ishikawajima Heavy Industry Co.

Anti-Submarine ("A" Type DDK)
7 "Wave" Class

AYANAMI **ONAMI** **TAKANAMI**
ISONAMI **SHIKINAMI** **URANAMI**
MAKINAMI

Displacement:	1,700 tons *standard* (2,500 tons *full load*)
Dimensions:	357⅔ (*w.l.*) × 35 1/10 × 11⅞ (*max.*)
Guns:	6—3 inch, 50 cal. AA. (3 twin)
Tubes:	4—21 inch (quadrupled) Homing torpedo launchers, 2 on each beam
A/S weapons:	2 Hedgehogs, 2 Y-guns. Sonar.
Machinery:	2 sets Mitsubishi-Escher-Weiss turbines. 2 shafts. S.H.P.: 35,000 = 32 kts.
Boilers:	2 Mitsubishi-Nagasaki CE type

General Notes

The Hedgehog throwers are mounted on turntables before the bridge. Four torpedo loading racks are mounted in pairs abreast the after funnel. Droppers for anti-submarine homing torpedoes are mounted on the quarter deck. *Ayanami* means "Weave Wave," *Isonami* means "Shore Wave," *Shikinami* means "Spread Wave," *Takanami* means "High Wave," *Uranami* means "Small Bay Wave," *Onami* means "Billow Wave" and *Makinami* means "Roller Wave."

Photograph Notes

Photographs of *Uranami* appear in the 1958-59 to 1960-61 editions, of *Isonami* and *Murasame* (Addenda) in the 1959-60 edition, and of *Onami* (Addenda) in the 1960-61 edition.



TAKANAMI — 1961, *Japanese Maritime Self-Defence Force, Official*

Pennant No.	*Name*	*Builders*	*Programme*	*Laid down*	*Launched*	*Completed*
DD 103	*Ayanami*	Mitsubishi Zosen Co., Nagasaki	1955	20 Nov. 1956	1 June 1957	12 Feb. 1958
DD 104	*Isonami*	Shin Mitsubishi Jyuko Co., Kobe	1955	14 Dec. 1956	30 Sep. 1957	14 Mar. 1958
DD 106	*Shikinam*	Mitsui Zosen Co., Tamano	1955	14 Dec. 1956	25 Sept. 1957	15 Mar. 1958
DD 110	*Takanami*	Mitsui Zosen Co., Tamano	1957	8 Nov. 1958	8 Aug. 1959	30 Jan. 1960
DD 105	*Uranami*	Kawsaaki Jyuko Co., Tokyo	1955	1 Feb. 1957	29 Aug. 1957	27 Feb. 1958
DD 111	*Onami*	Ishikawajima Jyuko Co., Tokyo	1958	20 Mar. 1959	13 Feb. 1960	29 Aug. 1960
DD 112	*Makinami*	Iino Jyuko Co., Maizuru	1958	20 Mar. 1959	25 Apr. 1960	28 Oct. 1960

2 "Wind" Class

HARUKAZE **YUKIKAZE**

Pennant No.:	DD 101	DD 102
Name:	*Harukaze*	*Yukikaze*
Builders:	Mitsubishi Zosen Co., Nagasaki	Shin-Mitsubishi Jyuko Co., Kobe.
Laid down:	15 Dec. 1954	17 Nov. 1954
Launched:	20 Sept. 1955	20 Aug. 1955
Completed:	26 April 1956	31 July 1956

Displacement:	1,700 tons *standard* (2,340 tons *full load*)
Dimensions:	347⅔ (*w.l.*), 358½ (*o.a.*) × 34½ × 12 feet
Guns:	3—5 inch, 38 cal., d.p.; 8—40 mm U.S. Bofors AA. (two quadruple)
A/S weapons:	Tubes for short homing torpedoes, 2 hedgehogs, 4 K-guns, 1 depth charge rack
Machinery:	*Harukaze*: 2 Mitsubishi-Escher Wyss geared turbines. *Yukikaze*: 2 Westinghouse geared turbines. 2 shafts. S.H.P.: 30,000 = 30 kts.
Boilers:	*Harukaze*: 2 Hitachi-Babcock *Yukikaze*: 2 Combustion Engineering
Oil fuel:	557 tons
Radius:	6,000 miles at 18 kts.
Complement:	*Harukaze*: 190; *Yukikaze* 187

General Notes

"A" Type DD High Speed Escort Vessels. *Harukaze* and *Yukikaze* were authorised by Congress under 1953 fiscal year programme. First destroyer hulled vessels built in Japan after the Second World War. Electric welding was extensively adopted in hull construction; development and usage of weldable high tension steel in main hull and light alloy in superstructure are also novel. Nearly all armament supplied from U.S.A. under the MSA clause, *Harukaze* means "Spring Wind," *Yukikaze* means "Snow Wind." Photograph of *Yukikaze* in 1957-58 edition.



YUKIKAZE — 1962, *Official*

A/S Weapon Notes

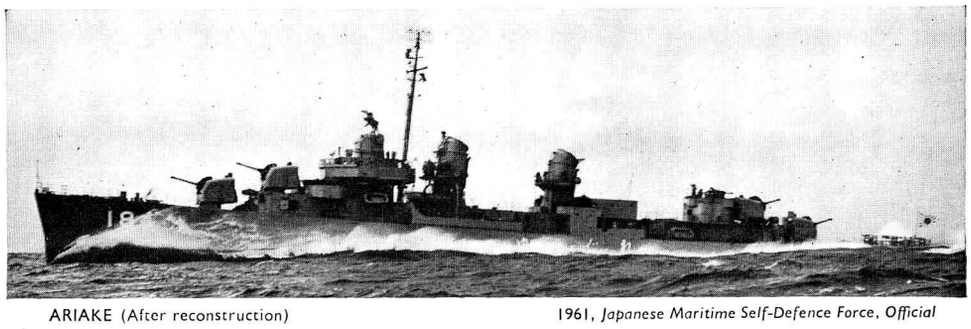
Armament was modified in Mar. 1959 when homing torpedo tubes were mounted and depth charge equipment correspondingly reduced.

(Ex-U.S. Later "Fletcher" Type
2 "Twilight" Class

ARIAKE (ex-U.S.S. *Heywood L. Edwards, DD* 663)
YUGURE (ex-U.S.S. *Richard P. Leary, DD* 664)

Name:	*Ariake*	*Yugure*
Pennant No.:	DD 183	DD 184
Builders:	Boston Navy Yard	Boston Navy Yard
Launched:	6 Oct. 1943	6 Oct. 1943
Completed:	26 Jan. 1944	23 Feb. 1944

Displacement:	2,050 tons *standard* (3,040 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39⅓ × 18 (*max.*) feet
Guns:	4—5 inch, 38 cal.; 10—40 mm. AA. 8—20 mm. AA.
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 60,000 = 35 kts.
Boilers:	4 Babcock & Wilcox
Complement:	300



ARIAKE (After reconstruction) — 1961, *Japanese Maritime Self-Defence Force, Official*

Notes

Former United States destroyers of the Later "Fletcher" class DD. Transferred on loan from the U.S. Navy to the Japanese Maritime Self-Defence Force on 10 Mar. 1959 and towed to Japan for reconstruction, during which No. 3 5 inch gun was removed. "Ariake" means Dawn Twilight; "Yugure" means Evening Dusk.

Destroyers—*continued*

(Ex-U.S. "Gleaves" Type Destroyers)
2 "Breeze" Class

ASAKAZE (ex-U.S.S. *Ellyson*, *DD* 454, ex-*DMS* 19)
HATAKAZE (ex-U.S.S. *Macomb*, *DD* 458, ex-*DMS* 23)

	Asakaze	*Hatakaze*
Name:		
Pennant No.:	DD 181	DD 182
Builders:	Federal S.B. & D.D. Co.	Bath Iron Works Corpn.
Laid down:	2 Dec. 1940	3 Sep. 1940
Launched:	25 July 1941	22 Sep. 1941
Completed:	28 Nov. 1941	26 Jan. 1942

Displacement: 1,630 tons (2,775 tons *full load*)
Dimensions: 341 (*w.l.*), 348½ (*o.a.*) × 36 × 10 (*mean*) 18 (*max.*) feet
Guns: 3—5 inch, 38 cal., d.p.; 8—40 mm. AA.; 4—20 mm. AA.
A/S weapons: 1 or 2 Hedgehogs, 4 K-guns, 2 depth charge racks
Machinery: Geared turbines, 2 shafts. S.H.P.: 50,000=37 kts. (designed). Sea speed approx. 30 kts.
Boilers: 4 Babcock & Wilcox
Complement: 250



ASAKAZE — 1962, *Official*

Notes
Former United States destroyers of the "Gleaves" class, DD, formerly rated as destroyer minesweepers, DMS. Taken over from the U.S.A. on 19 Oct. 1954. Names mean "Morning Breeze" and "Flag-fluttering Breeze," respectively.

FRIGATES

Destroyer Escort Type (DE)
2+2 "River" Class

ISUZU **MOGAMI**

	Isuzu	*Mogami*
Name:		
No.:	DE 211	DE 212
Builders:	Mitsui Zosen Co., Tamano	Mitsubishi Zosen Co., Nagasaki
Laid down:	16 Apr. 1960	4 Aug. 1960
Launched:	17 Jan. 1961	7 Mar. 1961
Completed:	29 July 1961	28 Sep. 1961

Displacement: 1,490 tons *standard* (1,700 tons *full load*)
Dimensions: 309 (*w.l.*), 318¼ (*o.a.*) × 33½ × 11 feet
Guns: 4—3 inch, 50 cal. (two twin)
Tubes: 4—21 inch (quadrupled)
A/S weapons: 1 rocket launcher, 2 homing torpedo launchers, 1 D.C.T., 1 D.C. rack
Machinery: 2 or 4 diesels. 2 shafts. B.H.P.: 16,000=25 kts.



ISUZU — 1962, *Japanese Maritime Self-Defence Force, Official*

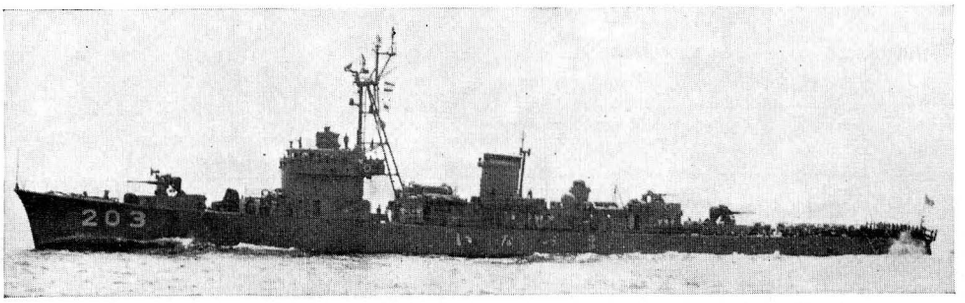
Notes
Built under the 1959 new construction programme. Two more are projected under the 1961 construction programme. All new frigates of the destroyer escort (DE) type are named after rivers, like the old light cruisers. This naming system applied on 1 Oct. 1960.

Diesel "B" Type DE
2 "Thunder" Class

IKAZUCHI **INAZUMA**

	Ikazuchi	*Inazuma*
Name:		
No.:	DE 202	DE 203
Builders:	Kawasaki Jyuko Co., Kobe	Mitsui Zosen Co., Tamano
Laid down:	18 Dec. 1954	25 Dec. 1954
Launched:	6 Sep. 1955	4 Aug. 1955
Completed	29 May 1956	5 Mar. 1956

Displacement: 1,080 tons *standard* (1,300 tons *full load*)
Dimensions: 287 (*w.l.*) × 28½ × 10½ feet
Guns: 2—3 inch, 50 cal., d.p.; 4—40 m.m. AA.
A/S weapons: 1 hedgehog, 4 K-guns, 2 depth charge racks
Machinery: Diesel engines. 2 shafts. B.H.P.: 12,000=25 kts.
Radius: 5,500 miles at 15 kts.
Complement: 145 and 156



INAZUMA — 1961, *Hajime Fukaya*

General Notes
Diesel powered "B" type DE Escort Vessels. Authorised by Congress under 1953 fiscal year programme. Unlike the turbine boat, *Akebono*, see below, which has two funnels, these diesel boats have only one funnel. *Ikazuchi* means "Thunder," *Inazuma* means "Thunderbolt."

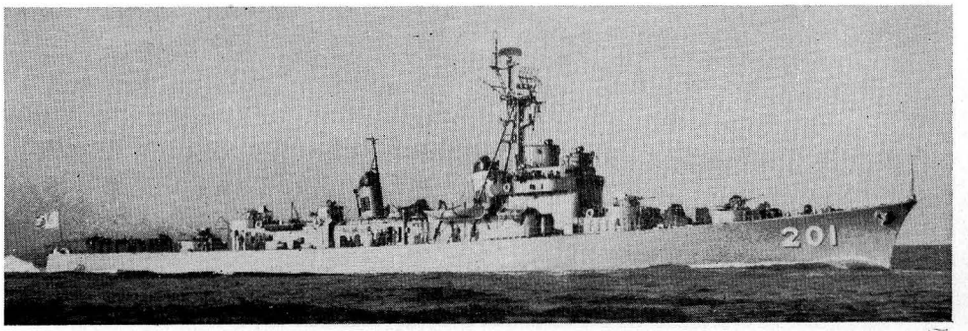
Gunnery Notes
The original 2—3 inch guns and 1—40 mm. gun were removed in Mar. 1959 and replaced by 2—3 inch quick firing guns.

Turbine "B" Type DE
1 "Dawn" Class

AKEBONO

No.:	DE 201
Builders:	Ishikawajima Jyuko Co., Tokio
Ordered:	20 Nov. 1954
Laid down:	10 Dec. 1954
Launched:	15 Oct. 1955
Completed:	20 Mar. 1956

Displacement: 1,070 tons *standard* (1,350 tons *full load*)
Dimensions: 301 (*o.a.*) × 28½ × 11 (*max.*) feet
Guns: 2—3 inch, 50 cal.; 3—40 mm. AA.
A/S weapons: 1 Hedgehog, 4 K-guns, 1 depth charge rack
Machinery: Ishikawajima geared turbines. 2 shafts. S.H.P.: 18,000=28 kts.
Boilers: 2 Ishikawajima—Foster Wheeler type
Complement: 193



AKEBONO — 1962, *Official*

General Notes
Turbine propelled "B" type DE Escort Vessel built under the 1953 Programme. "Akebono" means Dawn.

Gunnery Notes
The original 2—3 inch guns and 1—40 mm. gun were removed in March 1959 when 2—3 inch quick firing guns were mounted and 4 K-guns and 1 D.C. rack removed.

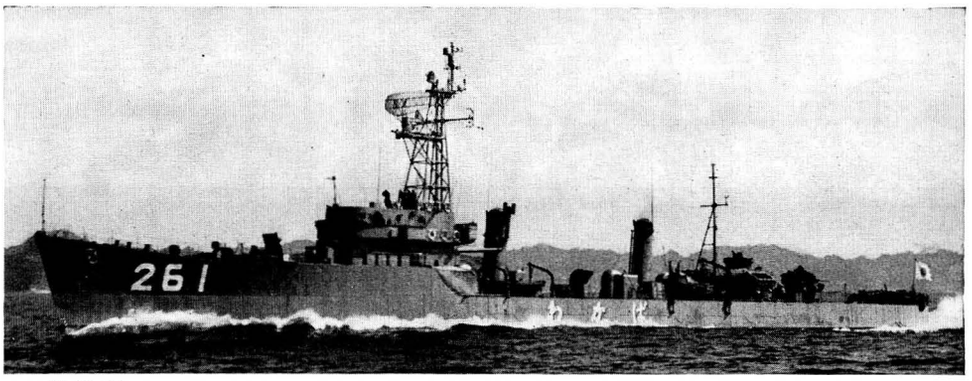
Frigates—*continued*

Rated as Radar Experimental Ship
(Ex-Japanese Escort Destroyer)

WAKABA (ex-*Nashi*)

No.:	DE 261
Builders:	Kawasaki, Kobe
Laid down:	1 Sep. 1944
Launched:	17 Jan. 1945
Completed:	15 Mar. 1945

Displacement:	1,250 tons *standard* (1,560 tons *full load*)
Dimensions:	322½ (*pp.*), 329¾ (*o.a.*) × 31⅛ × 10⅔ feet
Guns:	2—3 inch AA.
A/S Weapons:	Hedgehog, 2 K-guns, D.C. tracks
Machinery:	Turbines. 2 shafts. S.H.P.: 14,000 = 25 kts. Sea speed, 24 kts.
Boilers:	2 Kampon
Oil fuel:	395 tons
Radius:	4,680 miles at 16 kts.
Complement:	206



WAKABA *Added* 1961

General Notes

This ship, the old wartime escort destroyer *Nashi*, was built under the War Programme of 1943 as one of the Modified "Matsu" type. She was sunk on 28 July 1945 off Hatajiri Point, Inland Sea, by carrier borne aircraft. She was officially scrapped on 15 Sep. 1945. But she was subsequently raised and repaired and purchased by the Maritime Self-Defence Force. She completed her first reconstruction at Kure Zosen on 12 May 1956, being renamed and commissioned on 31 May. Designated "B" Type DE. Her new name *Wakaba* means "Young Leaf." She was intended to be used as the training ship, but she was converted into a radar picket escort vessel or aircraft direction ship. Her second reconstruction commenced on 10 Sep. 1957 and was completed on 26 Mar. 1958. Her lattice foremast and tripod mainmast were stepped in 1958. In 1961 she had a large radar aerial fitted aft.

Photograph Notes

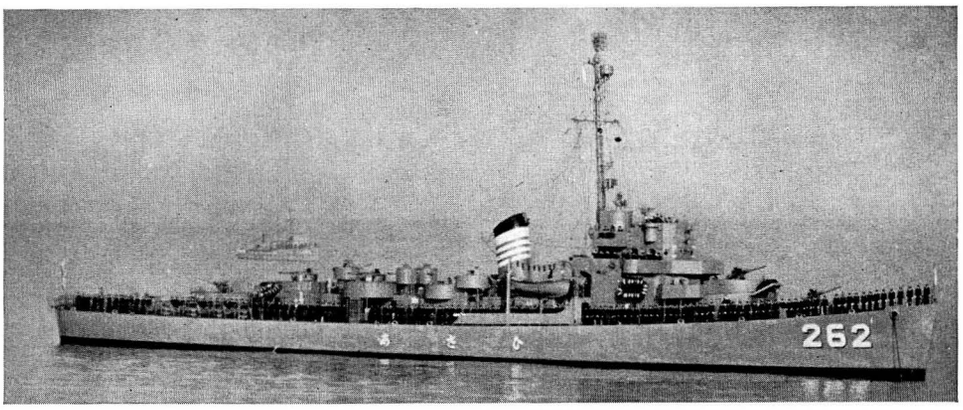
Another photograph of this ship after conversion to a radar picket escort vessel, a starboard quarter view, appears in the 1958-59 edition, and a port bow view appears in the 1959-60 and 1960-61 editions.

(Ex-U.S. "Bostwick" Type Destroyer Escorts)
2 "Sun" Class

ASAHI (ex-U.S.S. *Amick*, *DE* 168)
HATSUHI (ex-U.S.S. *Atherton*, *DE* 169)

Name:	*Asahi*	*Hatsuhi*
No.:	DE 262	DE 263
Builders:	Federal Port Newark	Federal, Port Newark
Launched:	26 May 1943	26 May 1943
Completed:	26 July 1943	29 Aug. 1943

Displacement:	1,250 tons (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅜ × 10⅔ (*mean*), 12 (*max.*) feet
Guns:	3—3 inch, 50 cal. d.p.; 2—40 mm. AA; 4—20 mm. AA.; and D.C.T.
Machinery:	General Motors diesels with electric drive. 2 shafts. B.H.P.: 6,000 = 20 kts. sea speed
Complement:	220



ASAHI 1961, *Hajime Fukaya*

Notes

Former United States destroyer escorts of the "Bostwick" class DE taken over from the U.S. Navy on 14 June 1955. *Asahi* means "Morning Sun"; *Hatsuhi* means "First Sun of the Year."

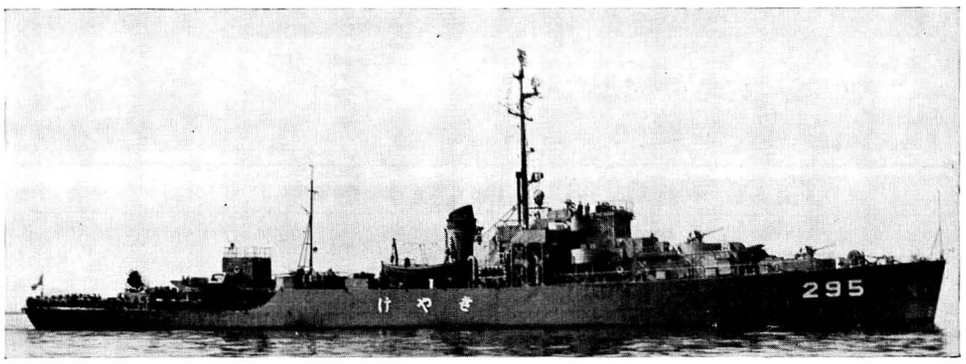
Photograph Notes

A photograph of *Hatsuhi* appears in the 1956-57 to 1960-61 editions.

(Ex-U.S. "Tacoma" Type Patrol Frigates)
18 "Tree" Class

BUNA (ex-U.S.S. *Bayonne*, *PF* 21)	PF 294
KAEDE (ex-U.S.S. *Newport News*, *PF* 27)	PF 293
KASHI (ex-U.S.S. *Pasco*, *PF* 6)	PF 283
KAYA (ex-U.S.S. *San Pedro*, *PF* 37)	PF 288
KEYAKI (ex-U.S.S. *Evansville*, *PF* 70)	PF 295
KIRI (ex-U.S.S. *Everett*, *PF* 8)	PF 291
KUSU (ex-U.S.S. *Ogden*, *PF* 39)	PF 281
MAKI (ex-U.S.S. *Charlottesville*, *PF* 25)	PF 298
MATSU (ex-U.S.S. *Bath*, *PF* 55)	PF 286
MOMI (ex-U.S.S. *Poughkeepsie*, *PF* 26)	PF 284
NARA (ex-U.S.S. *Machias*, PF 53)	PF 282
NIRE (ex-U.S.S. *Sandusky*, *PF* 54)	PF 287
SAKURA (ex-U.S.S. *Carson City*, *PF* 50)	PF 290
SHII (ex-U.S.S. *Long Beach*, *PF* 34)	PF 297
SUGI (ex-U.S.S. *Coronado*, *PF* 38)	PF 285
TOCHI (ex-U.S.S. *Albuquerque*, *PF* 7)	PF 296
TSUGE (ex-U.S.S. *Gloucester*, *PF* 22)	PF 292
UME (ex-U.S.S. *Allentown*, *PF* 52)	PF 289

Displacement:	1,430 tons *standard* (2,415 tons *full load*)
Dimensions:	285½ (*w.l.*), 304 (*o.a.*) × 37½ × 13⅔ (*max.*) feet
Guns:	3—3 inch, 50 cal., d.p.; 2—40 mm. AA.; 9—20 mm. AA.
A/S weapons:	2 hedgehogs, 2 depth charge racks, 8 K-guns
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. (designed). Sea speed 18 kts.
Boilers:	2
Oil fuel:	645 tons
Radius:	9,500 miles at 12 kts.
Complement:	180



KEYAKI (Flagship, with deckhouse abaft small mainmast) 1961, *Hajime Fukaya*



NIRE *courtesy Lieut.-Commander G.R.G. Murray, R.N.*

Notes

Former American patrol escorts, PF, of the "Tacoma" class. Of similar design to the British frigates of the "River" class. All launched in 1943. Transferred from U.S.A. in 1953. All named after trees. *Keyaki*, with deckhouse added abaft the mainmast, is flagship of the flotilla. Pennant Nos. 1 to 18, superseded by new numbers assigned on 1 Sept. 1957 (see above).

SUBMARINES

1 Projected New Type

Displacement: 1,500 tons
Tubes: 21 inch
Machinery: 2 diesels. 2 electric motors. 2 shafts

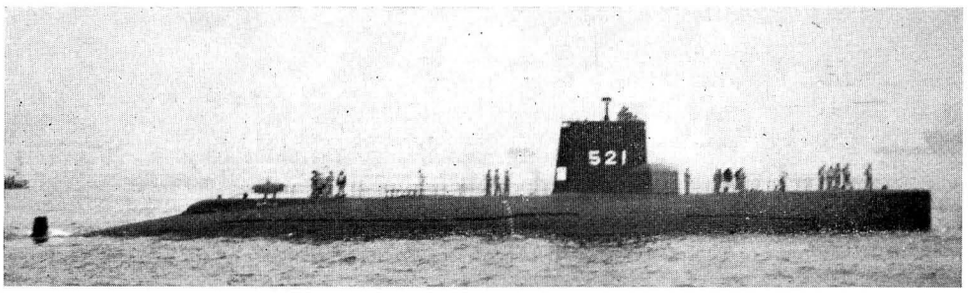
Notes
Being built under the 1961 new construction programme.

2+2 New Construction

FUYUSHIO
HAYASHIO
NATSUSHIO
WAKASHIO

Name:	*Hayashio*	*Wakashio*
Pennant No.:	SS 521	SS 522
Builders:	Shin Mitsubishi Jyuko Co., Kobe	Kawasaki Jyuko Co., Kobe
Laid down:	6 June 1960	7 June 1960
Launched:	31 July 1961	28 Aug. 1961
Completed:	**30 June 1962**	**10 Aug. 1962**

Displacement: 750 tons
Dimensions: 194¼ × 20⅜ feet
Tubes: 3—21 inch
Machinery: **2 diesels. 2 shafts. B.H.P.: 1,350** 12 kts. (*surface*). 2 electric motors H.P.: 1,700=14.5 kts (*submerged*)



HAYASHIO — 1962, *Japanese Maritime Self-Defence Force, Official*

Notes
Medium submarines of a new type. *Hayashio* (Swift Tide) and *Wakishio* (Young Tide) were built under the 1959 Programme. *Natsushio*, (Summer Tide), SS 523, and *Fuyushio* (Winter Tide), SS 524, were laid down in Dec. 1961 for launching in Sep. 1962 at Mitsubishi and Kawasuki, respectively.

Nuclear Powered Type Notes
The Director of the Japanese Defence Agency stated on 5 May 1959 that Japan was studying the possibility of building a nuclear powered submarine. In the meantime, two conventional **submarines** would be ordered.

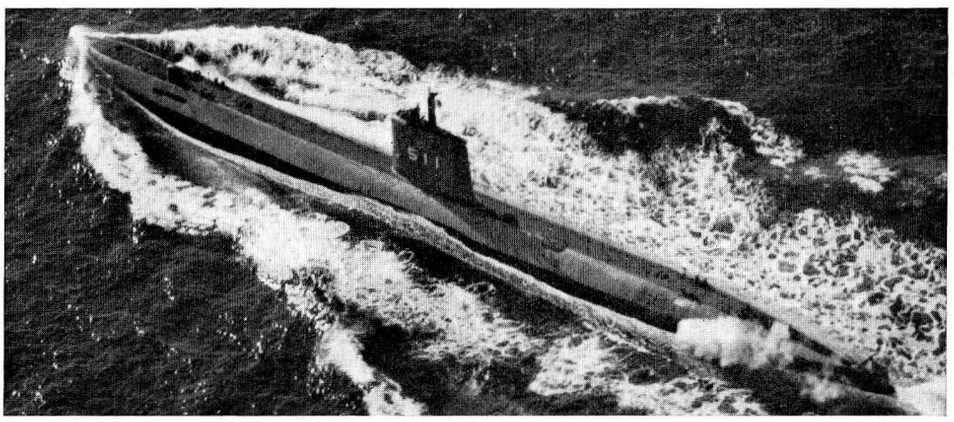
1 "Oyashio" Class

OYASHIO

Pennant No.: SS 511
Builders: Kawasaki Jyuko Co., Kobe
Laid down: 25 Dec. 1947
Launched: 25 May 1959
Completed: 30 June 1960

Displacement: 1,139 tons *surface* (1,420 tons *submerged*)
Dimensions: 258½ × 23 × 15⅚ feet
Tubes: 4—21 inch. 10 torpedoes
Machinery: 2 diesels. B.H.P.: 2,700=13 kts. (*surface*)
2 electric motors. S.H.P.: 5,960=19 kts. (*submerged*)
Radius: 5,000 miles at 10 kts.
Complement: 65

Notes
Of a new type. Built under the 1956 Programme. The first submarine to be built in a Japanese shipyard since the end of the Second World War, *Oyashio* is the name of a tide stream in the Pacific off Houshu. Completed and delivered to the Japanese Maritime Self-Defence Force on 30 June 1960. She was first estimated to cost £2.718,000, but this figure has since been revised.



OYASHIO — 1961, *Japanese Maritime Self-Defence Force. Official*

1 Ex-U.S. "Gato" Class

KUROSHIO (ex-U.S.S. *Mingo*, *SS* 261)

Pennant No.: SS 501
Builders: Electric Boat Co., Groton, Conn., U.S.A.
Laid down: 21 Mar. 1942
Launched: 3 Nov. 1942
Completed: 12 Feb. 1943

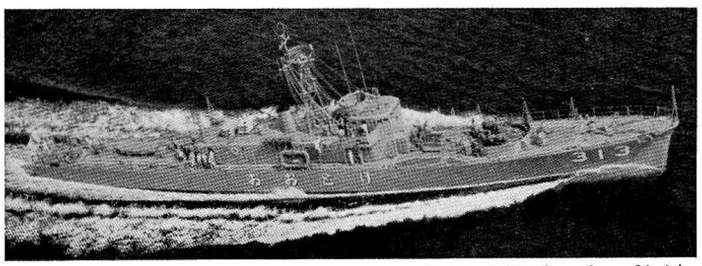
Displacement: 1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions: 311¾ × 27 × 15 feet
Guns: 1—5 inch, 25 cal., d.p.; 2—20 mm. AA.
Tubes: 10—21 inch (6 bow, 4 stern)
Machinery: 2 General Motors, diesels. B.H.P.: 6,500=21 kts. (*surface*); 2 electric motors. H.P.: 2,750=10 kts. (*submerged*)
Complement: 85



KUROSHIO — 1962, *Official*

Notes
Former United States submarine of the "Gato" class. Taken over from the U.S. Navy on 15 August 1955. *Kuroshi* means "Black Current."

FAST PATROL VESSELS



OHTORI — 1961, *Japanese Maritime Self Defence Force, Official*

5+1 "Mizutori" Class. Rated as Submarine Chasers (PC)

HATSUKARI
KASASAGI
MIZUTORI
OHOTORI
YAMADORI

Displacement: 420 tons *standard*
Dimensions: 196⅝ × 23½ × 7½ feet
Guns: 2—40 mm. (twin)
A/S weapons: 1 Hedgehog, 1 D.C. rack, Homing Torpedoes
Machinery: 2 Kawasaki M.A.N. diesels. 2 shafts. B.H.P.: 4,000=20 kts.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
311	*Mizutori*	Kawasaki, Kobe	13 Mar. 1959	22 Sep. 1959	22 Feb. 1960
312	*Yamadori*	Fujinagata, Osaka	14 Mar. 1959	22 Oct. 1959	15 Mar. 1960
313	*Ohotori*	Kure Shipyard	16 Dec. 1959	27 May 1960	13 Oct. 1960
314	*Kasasagi*	Fujinagata, Osaka	18 Dec. 1959	31 May 1960	31 Oct. 1960
315	*Hatsukari*	Sasebo Shipyard	25 Jan. 1960	24 June 1960	15 Nov. 1960

Notes
Mizutori and *Yamadori* were built under the 1958 fiscal year programme, others under the 1959 fiscal year programme. One more is projected under the 1961 construction programme.

Fast Patrol Vessels—*continued*



OHTAKA — 1960, *courtesy Kure Shipyard, Builders*

2+1 "Umitaka" Class

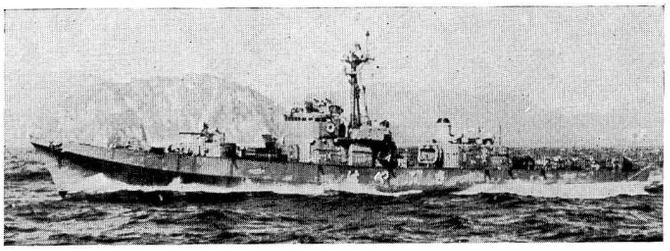
OHTAKA
UMITAKA

Displacement: 440 tons *standard*
Dimensions: 196⅝ × 23½ × 7½ feet
Guns: 2—40 mm. (twin)
Machinery: 2 Mitsui B. and W. diesels. 2 shafts. B.H.P.: 4,000=20 kts.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
309	*Umitaka*	Kawasaki, Kobe	13 Mar. 1959	25 July 1959	30 Nov. 1959
310	*OOtaka*	Kure Shipyard	18 Mar. 1959	3 Sep. 1959	14 Jan. 1960

Notes
Built under the 1957 fiscal year programme. Same hull and armament as "Mizutori" class. Design improved from "Kamome" and "Kari" class, emphasising good sea-keeping qualities. *Ohtaka* means Great Hawk and *Umitaka* means Sea Hawk. One more is projected under the 1961 construction programme.

Fast Patrol Vessels—*continued*



HAYABUSA — 1957, *courtesy Mitsubiski Shipbuilding & Engineering Co. Ltd., Builders*

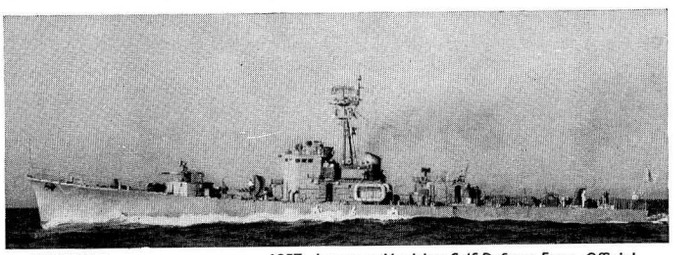
1 Gas Turbine Type

HAYABUSA

Displacement:	370 tons *standard*
Dimensions:	190½ × 25⅔ × 6⅔ feet
Guns:	2—40 mm. AA. (twin)
A/S weapons:	1 Hedgehog, 2 D.C. throwers, 2 D.C. racks
Machinery:	1 Gas turbine. H.P.: 5,000. 2 diesels. B.H.P.: 4,000=26 kts.

Notes

Authorised under the 1954 fiscal year programme. Pennant No. 308. Built by Mitsubishi Shipbuilding & Engineering Co., Ltd., Nagasaki. Laid down on 23 May 1956. Launched on 20 Nov. 1956. Completed on 10 June 1957.



KAMOME — 1957, *Japanese Maritime Self-Defence Force, Official*

7 Diesel Type

KAMOME **MISAGO** **TSUBAME**
KARI **TAKA** **WASHI**
KIJI

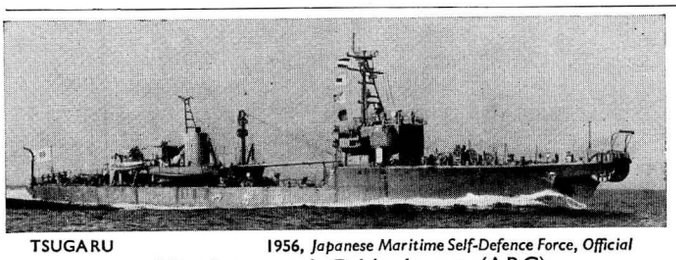
Displacement:	330 tons *standard* (*Kari*, *Kijii*, *Taka* and *Washi*, 310 tons)
Dimensions:	173½ (*o.a.*) × 21⅔ × 6⅔ feet
Guns:	2—40 mm. (twin)
A/S weapons:	1 hedgehog, 2 K-guns, D.C. Throwers
Machinery:	Diesel (*Kari*, *Kijii*, *Taka* and *Washi*, Kawasaki M.A.N.; others Mitsui Burmeister & Wain). B.H.P.: 4,000=21 kts.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
305	*Kamome*	Uraga,	27 Jan. 1956	3 Sep. 1956	14 Jan. 1957
301	*Kari*	Fujimagata, Osaka	18 Jan. 1956	26 Sep. 1956	8 Feb. 1957
302	*Kiji*	Iino, Maizura	14 Dec. 1955	11 Sep. 1956	29 Jan. 1957
307	*Misago*	Uraga,	27 Jan. 1956	1 Nov. 1956	11 Feb. 1957
303	*Taka*	Fujimagata, Osaka	18 Jan. 1956	17 Nov. 1956	11 Mar. 1957
306	*Tsubame*	Kure Shipyard	15 Mar. 1956	10 Nov. 1956	31 Jan. 1957
304	*Washi*	Iino, Maizuru	14 Dec. 1955	12 Nov. 1956	30 Mar. 1957

Notes

Authorised under the 1954 fiscal year programme. Name *Kamome* means "Seagull."

MINELAYERS



TSUGARU — 1956, *Japanese Maritime Self-Defence Force, Official*

Minelayer and Cable Layer (ARC)

TSUGARU

Displacement:	1,000 tons
Dimensions:	216½ × 34⅓ × 11 f eet
Guns:	1—3 inch, 50 cal., d.p.; 2—20 mm. AA.; 4 K-guns
Mines:	4 mine launchers, capacity of 40 mines
Machinery:	Diesel. 2 shafts. B.H.P.: 3,200=16 kts.
Complement:	105

Notes

Dual purpose cable layer and coastal minelayer. Authorised under the 1953 fiscal year programme. Built by Yokohama Shipyard & Engine Works, Mitsubishi Nippon-Heavy Industries Ltd. Laid down on 18 Dec. 1954. Launched on 19 July 1955. Completed on Dec. 1955. Pennant No.: 481.



ERIMO — 1956, *Japanese Maritime Self-Defence Force, Official*

Minelayer and Minesweeper (AMC)

ERIMO

Displacement:	630 tons
Dimensions:	210 × 26 × 8 feet
Guns:	2—40 mm. AA.; 2—20 mm. AA.
A/S weapons:	1 Hedgehog; 1 D.C.
Machinery:	Diesel. 1 shaft. B.H.P.: 2,500=18 kts.
Complement:	74

Notes

Multi-purpose minelayer, ocean minesweeper (non-magnetic) and submarine chaser. Authorised under 1953 fiscal year programme. Built by Uraga Dock Co. Laid down on 10 Dec. 1954. Launched on 12 July 1955. Completed on 28 Dec. 1955

COASTAL MINESWEEPERS



SHISAKA — 1961

13+2 "Kasado" Class

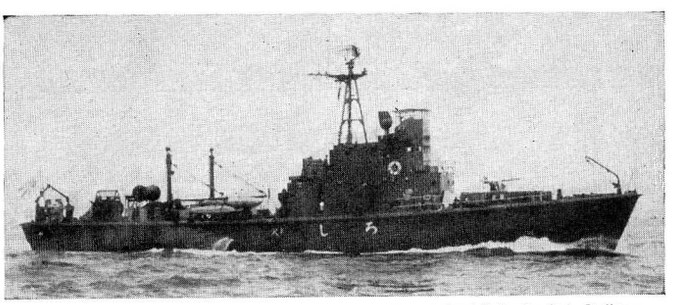
HABUSHI **HOTAKA** **KASADO** **MIKURA** **SHISAKA**
HIRADO **KANAWA** **KOSHIKI** **SAKITO** **TATARA**
KOHZU **SHIKINE** **TSUKIMI**

Displacement:	340 tons
Dimensions:	151 × 27½ × 7½ feet
Guns:	1—20 mm. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,200=14 kts.

Notes

Anti-magnetic type minesweepers. Hull is of wooden construction with form for speed. Otherwise built of non-magnetic materials. *Kasado* and *Shisaka* were ordered under the 1955 Programme. *Kasado* was built by Hitachi, Kanagawa Works, *Shisaka* by Tsurumi, Japan Steel Works. *Habushi*, *Kanawa* and *Sakito* were ordered under the 1957 Programme. *Sakito* was built by Nippon Steel Tube Co. (Tsurumi Works), *Habushi* and *Kanawa* by Hitachi Shipbuilding Co. (Kanagawa Works of Kawasaki). Four more medium type minesweepers were built under the 1958 Programme, two under the 1959 Programme, two under the 1960 Programme, two under the 1961 Programme.

No.	*Name*	*Laid down*	*Launched*	*Completed*
MSC 604	*Kasado*	9 July 1956	19 Mar. 1958	26 June 1958
MSC 605	*Shisaka*	20 July 1956	20 Mar. 1958	16 Aug. 1958
MSC 606	*Kanawa*	25 Aug. 1958	22 Apr. 1959	24 July 1959
MSC 607	*Sakito*	16 Aug. 1958	22 Apr. 1959	25 Aug. 1959
MSC 608	*Habushi*	25 Aug. 1958	19 June 1959	22 Sep. 1959
MSC 609	*Kohzu*	24 Mar. 1959	12 Nov. 1959	26 Feb. 1960
MSC 610	*Tatara*	30 Mar. 1959	14 Jan. 1960	26 Mar. 1960
MSC 611	*Tsukumi*	24 Mar. 1959	12 Jan. 1960	27 Apr. 1960
MSC 612	*Mikura*	30 Mar. 1959	14 Mar. 1960	27 May 1960
MSC 613	*Shikine*	12 Jan. 1960	22 July 1960	15 Nov. 1960
MSC 614	*Hirado*	14 Mar. 1960	3 Oct. 1960	17 Dec. 1960
MSC 615	*Koshiki*	20 Mar. 1961	9 Nov. 1961	29 Jan. 1962
MSC 616	*Hotaka*	22 Mar. 1961	23 Oct. 1961	24 Feb. 1962



YASHIRO — 1957, *Nippon Steel Tube Co. Ltd., Builders*

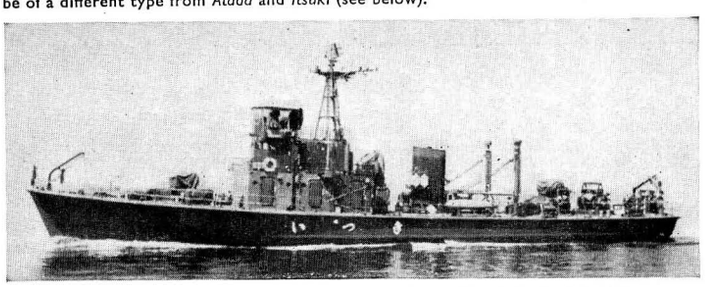
1 "Yashiro" Class

YASHIRO

Displacement:	230 tons *standard* (255 tons *full load*)
Dimensions:	118 (*pp.*) × 22⅔ × 6½ feet
Guns:	1—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,200=13 kts.
Complement:	33

Notes

Built under the 1953 Programme by the Nippon Kokan Co., Tsurumi. Officially stated to be of a different type from *Atada* and *Itsuki* (see below).



ITSUKI — 1960, *Nippon Steel Tube Co. Ltd., Builders*

2 "Atada" Class.

ATADA **ITSUKI**

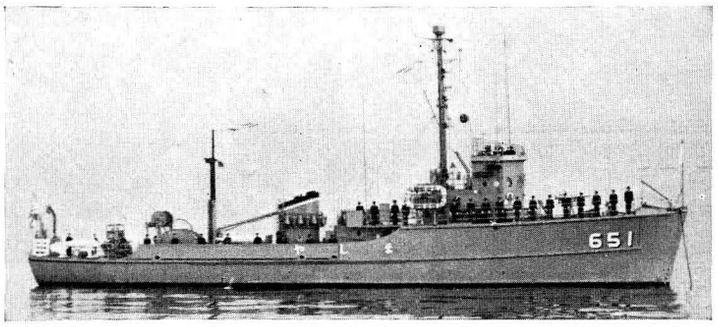
Displacement:	240 tons *standard* (260 tons *full load*)
Dimensions:	118 (*pp.*), 123½ (*o.a.*) × 21 × 6⅔ feet
Guns:	1—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,200=13·5 kts.
Oil fuel:	20 tons
Radius:	2,000 miles at 10 kts.
Complement:	33

Notes

Wood and light metal. Non-magnetic. Authorised under 1953 fiscal year programme. Built by the Hitachi Zozen Co. Named after small islands. A photograph of *Atada* appears in the 1957-58 to 1959-60 editions.

No.	*Name*	*Laid down*	*Launched*	*Completed*
MSC 601	*Atada*	20 June 1955	12 Mar. 1956	30 Apr. 1956
MSC 602	*Itsuki*	22 June 1955	12 Mar. 1956	20 June 1956
MSC 603	*Yashiro*	22 June 1955	26 Mar. 1956	10 July 1956

Coastal Minesweepers—*continued*



YASHIMA 1961, *Hajime Fukaya*

4 " Yashima " Class

HASHIMA (ex-U.S.S. *AMS* 95)
TOSHIMA (ex-U.S.S. *MSC* 258)
TSUSHIMA (ex-U.S.S. MSC (ex-*AMS* 255)
YASHIMA (ex-U.S.S. *AMS* 144)

Displacement:	335 tons *standard* (375 tons *full load*)
Dimensions:	138 (*p.p.*), 144 (*o.a.*) × 26½ × 8½ ft.
Machinery:	2 GM. diesels. B.H.P.: 1,000=14 kts.
Complement:	39

Notes
Wood. Former American *AMS*'s (Auxiliary Minesweepers). *Yashima* and *Hashima* were transferred from U.S.A. in 1954 and 1955, respectively. *Tsushima* was transferred from the U.S.A. under MDAP and commissioned in the Japanese Navy on 18 July 1956 at San Francisco. *Toshima* transferred under MDAP in 1957. Nos. MSC 651 (*Yashima*,) 652 (*Hashima*,) 653 (*Tsushima*), 654 (*Toshima*). A starboard bow view of *Yashima* appears in the 1957-58 to 1959-60 editions.



AMOROSHIM 1961

9 " Ujishima " Class

ETAJIMA (ex-U.S.S. *Firecrest*, *AMS* 10)
MOROSHIMA (ex-U.S.S. *Hummer*, *MSC(o)* 20)
NINOSHIMA (ex-U.S.S. *Lark*, *MSC(o)* 23)
NUWAJIMA (ex-U.S.S. *Heron*, *AMS* 18)
OGISHIMA (ex-U.S.S. *Pelican*, *AMS* 32)
UJISHIMA (ex-U.S.S. *Condor*, *AMS* 5)
YAKUSHIMA (ex-U.S.S. *Osprey*. *AMS* 28)
YUGESHIMA (ex-U.S.S. *Swallow*, *AMS* 36)
YURISHIMA (ex-U.S.S. *Chatterer*, *AMS* 40)

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136×24½×8 (*max.*) feet
Guns:	1—40 mm. AA.; 2—20 mm. AA.
Machinery:	2 General Motors diesels. B.H.P.: 1,000=12 kts.
Complement:	39

Notes
Former American " Albatross " class coastal minesweepers of wooden construction, formerly known as auxiliary motor minesweepers (AMS) but reclassified as Minesweepers, Coastal (old) or MSC(o) in Feb. 1955. *Moroshima* and *Ninoshima* were transferred from the United States Navy on loan to Japan under the MDAP on 12 Feb. 1959, the remainder in 1955. All named after small islands around the Japanese homeland. Pennant Nos. 656, 612, 613, 657, 655, 658, 659, 660 and 661, respectively.

INSHORE MINESWEEPERS

5 " Ukishima " Class

KURUSHIMA (ex-*MS* 24, ex-No. 139)
MATSUSHIMA (ex-*MS* 21, ex-No. 135)
OSHIMA (ex-*MS* 29, ex-No. 179)
TAKASHIMA (ex-*MS* 26, ex-No. 153)
TSURUSHIMA (ex-*MS* 19, ex-No. 84)

Displacement:	230 tons
Dimensions:	105⅔ (*o.a.*) × 20 × 7¾ feet
Machinery:	1 diesel. B.H.P.: 400=10 kts.
Complement:	26

Notes
Wood. Ex-Naval Auxiliary Patrol Boats constructed 1943-1945. Named after small islands around Japanese homeland. Nos. MSI 687, 686, 689, 688 and 685, respectively. Photographs of *Ukishima* and *Otoshima* in 1957-58 edition.
Recent Disposals
Of this class *Awashima*, *Himeshima*, *Kamoshima*, *Otoshima* aud *Ukishima* were stricken in 1962.

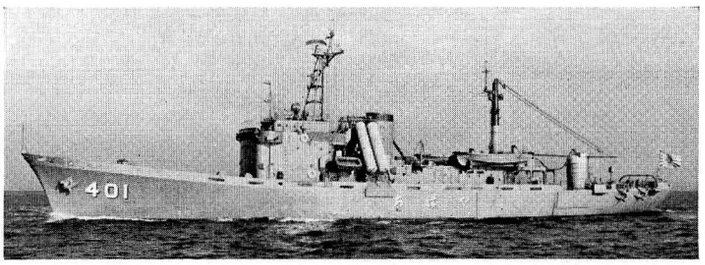
6 " Chiyozuru " Class

HATSUTAKA (ex-*MS* 03, ex-No. 222)
HAYATORI (ex-*MS* 15, ex-No. 214)
HIYODORI (ex-*MS* 84, ex-No. 203)
KAMOZURU (ex-*MS* 06, ex-No. 249)
SHIRATORI (ex-*MS* 17, ex-No. 231)
TOMOZURU (ex-*MS* 16, ex-No. 215)

Displacement:	130 tons
Dimensions:	95⅔ (*o.a.*) × 18¾ × 6½ feet
Machinery:	1 diesel. B.H.P.: 400=11 kts.
Complement:	23

Notes
Wood. Ex-Naval Auxiliary Sub-Chasers constructed 1943-1945. All named after birds. Nos. MSI 691 (*Kamozuru*), 693 (*Tomozuru*), 694 (*Shiratori*), 696 (*Hatsutaka*), 699 (*Hayatori*), 700 (*Hiyodori*). Photograph of *Chiyozuru* in 1957-58 edition.
Recent Disposals
Of this class *Furutaka*, *Hakuo*, *Hayataka*, *Kiji*, *Miyakodiro*, *Nishikidori*, *Otaka*, *Otori*, *Shirasagi*, *Wakataka*, *Yamabato* and *Yuhibar* were disposed of in 1959, and *Chiyozuru*, *Iwatsubame*, *Umitsubame*, *Yoshikiri* and *Yukair* were stricken in 1961.

SUBMARINE RESCUE VESSEL (ASR)



CHIHAYA 1961, *Japanese Maritime Self-Defence Force, Official*

CHIHAYA

Displacement:	1,340 tons *standard*
Dimensions:	239½ × 39½ × 12⅝ feet
Machinery:	Diesels. B.H.P. 2,700=15 kts.

Notes
Authorised under the 1959 fiscal year programme. The first vessel of her kind to be built in Japan. Laid down on 15 Mar. 1960. Launched by Mitsubishi Nippon Heavy Industries Co., Yokohama on 4 Oct. 1960. Completed on 2 Feb. 1961. Has rescue chamber, re-compression chamber, and four-point mooring equipment. Pennant No. ASR 410.

DRONE TARGET CARRIER

HAMAGIKU (ex-415, ex-U.S.S. *LSSL* 87)

Displacement:	300 tons *standard*
Dimensions:	158½ (*o.a.*) × 23¼ × 5⅝ feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,600=14·5 kts.

Notes
Former American LSSL. Sole survivor in the Japanese M.S.D.F. of the 50 Landing Ships Support, Large, transferred from the U.S.A. in 1953 and employed as patrol vessels or support gunboats. Refitted as Drone Target Carrier in 1958.
(22 patrol vessels, ex-LSSLs, sister ships of *Hamagiku*, were returned to the U.S.A. in 1960, see names of these and the 27 units of this " Flower " class returned in 1958 and 1959 in the 1960-61 edition.)

AUXILIARY MINESWEEPERS

SOEI (ex-*Soei Maru*, *MS* 32)

Displacement:	2,860 tons
Dimensions:	303½ × 42 × 23¼ feet
Machinery:	Geared turbine. 1 shaft. S.H.P.: 1,200=11 kts.
Complement:	64

Notes
Ex-wartime 2 TM tanker used as a " guinea pig " in minesweeping. Built Japan Jan. 1945. Rated as a large minesweeper (G.P.).

YUCHIDORI (ex-*MS* 62)

Displacement:	300 tons
Dimensions:	141¾ × 20 × 10½ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 800=14 kts.
Complement:	36

Notes
Ex-Naval Aircraft Rescue Boat used as a " guinea pig " in minesweeping. Rated as a small minesweeper (G.P.).

OKICHIDORI (ex-*MS* 68)

Displacement:	180 tons
Dimensions:	125 × 18 × 9½ feet
Machinery:	2 diesels. B.H.P.: 800=14 kts.
Complement:	26

Notes
Former Naval Aircraft Rescue Boat. Of steel construction. Pennant No. MSA.

MINESWEEPING BOATS

No. 1 **No. 2** **No. 3** **No. 4** **No. 5** **No. 6**

Displacement:	40 tons
Dimensions:	57¼ (*w.l.*), 62⅓ (*o.a.*) × 16 × 4 feet
Machinery:	Diesels. 2 shafts. B.H.P.: 640 =10 kts.
Complement:	8

Notes
Three minesweeping boats were built under the New Construction Programme authorised for the 1954 fiscal year, and another for 1955. All launched in Jan. and Feb. 1957 and completed in Feb. and Mar. 1957. Nos. 401 and 402 built by Hitachi, Kanagawa; Nos. 403 and 404 by Nihon Kokan, Tsurumi. Nos. 405 and 406 were built by Nikan Kokan, Tsurumi (Nippon Steel Tube Co., Tsurumi Works). Named *Sokaitei* Nos. 1 to 6, and numbered MSB 401 to 406. Laid down in June 1958 and completed in Feb.—Mar. 1959.

MINESWEEPER TENDERS (MST)

1 Ex-U.S. LST Type

HAYATOMO (ex-U.S.S. *Hamilton County*, *LST* 802)

Displacement:	1,650 tons *standard* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 feet
Guns:	7—40 mm. AA., 2—20 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,700=11·6 kts.

Notes
Former United States tank landing ship. Built by Jeffersonville B. & M. Co., Jeffersonville, Ind. Laid down on 2 Sep. 1944, launched on 19 Oct. 1944, and completed on 13 Nov. 1944. Transferred from the U.S. Navy on 30 June 1960. Rated as an MSC Tender. Pennant No.: MST 461.

2 " Miho " Class

MIHO (ex-U.S.S. *FS* 524) **NASAMI** (ex-U.S.S. *FS* 408)

Displacement:	706 tons
Dimensions:	177 × 30 × 10 feet
Machinery:	Diesels. 2 shafts. B.H.P.: 1,000=10 kts.

Notes
Transferred from the United States in 1955. *Nasami* is rated as minesweepers tender (MST). *Miho*, formerly rated as ASS, was refitted as an inshore minesweeper depot ship in August 1959. Photograph of *Nasami* in 1957-58 edition. (It is officially stated that the construction of a new supply and repair ship has been abandoned.)

MOTOR TORPEDO BOATS (*Gyoraitei*)



PT 10 1962, *Japanese Maritime Self-Defence Force, Official*

No 10 Displacement: 120 tons
Dimensions: 105×27¾×3⅜ feet
Guns: 2—40 mm. AA.
Tubes: 4—21 inch
Machinery: 3 diesels. 3 shafts. B.H.P.: 9,000=40 kts.

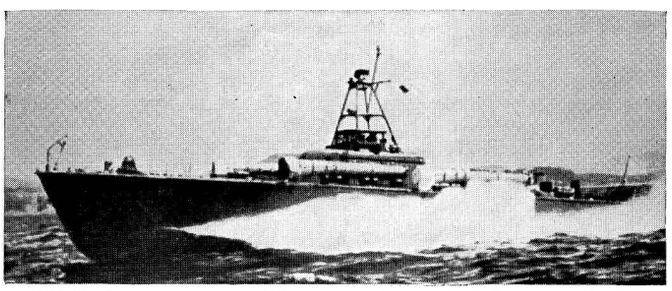
Notes
Authorised under the 1960 fiscal year programme. Built by Mitsubishi Heavy Industry, Shimonoseki Shipyard. Laid down on 30 Jan. 1961, launched on 28 July 1961 and completed in Mar. 1962. Light metal hull.



PT 9 1958, *courtesy Saunders-Roe (Anglesey) Ltd. Builders*

PT 9 Displacement: 60 tons
Dimensions: 71½×19¾×6 feet.
Guns: 1—40 mm. AA.
Tubes: 2—21 inch
Machinery. 2 Napier Deltic diesels. B.H.P.: 5,000=40 kts.
Complement: 15

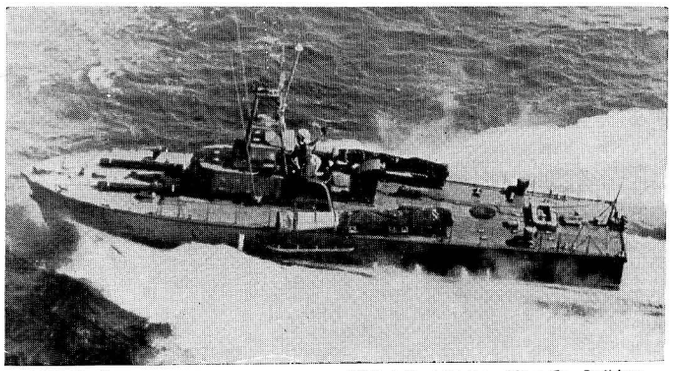
Notes
Basically similar to the British fast patrol boats (motor torpedo/gun boats) of the "Dark" class. Built by Saunders-Roe (Anglesey) Ltd., Beaumaris, and delivered to Yokosuka Naval Base on 29 July 1957. Accepted into the Japanese Maritime Self-Defence Force on 2 Sep 1957 and named No. 9 Fast Torpedo Boat



MTB No. 7 1957, *Mitsubishi Shipbuilding & Engineering Co. Ltd.*

No. 7 **No. 8**
Displacement: 100 tons
Dimensions: 112×24⅜×4 feet
Guns: 2—40 mm. AA.
Tubes: 4—21 inch
Machinery: 3 Mitsubishi diesels. 3 shafts. B.H.P.: 6,000=33 kts.

Notes
Authorised under the 1954 fiscal year programme. Built by Mitsubishi Zosen. Co., Shimonoseki Works. Laid down on 28 and 23 Aug. 1956, respectively, launched on 2 Feb. and 20 July 1957 and completed on 31 Oct. and 15 Nov. 1957. Light metal hulls.

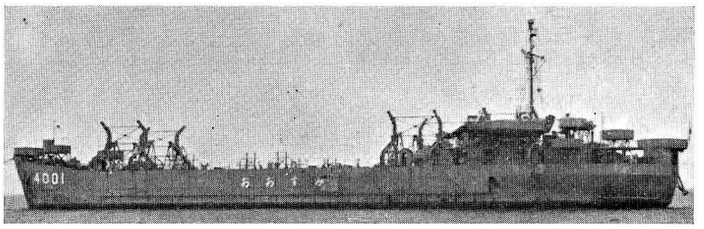


MTB No.1 1957, *Hitachi Shipbuilding Co., Builders*

No. 1 **No. 2** **No. 3** **No. 4** **No. 5** **No. 6**
Displacement: 70 tons
Dimensions: 82×20×6 feet
Guns: 1—40 mm. AA.
Tubes: 2—21 inch torpedo launchers
Machinery: 2 diesel engines. B.H.P.: 4,000=31 kts.
Complement: 18

Notes
Authorised under 1953 fiscal year programme. Nos. 1 and 2 have wooden hulls, Nos. 5 and 6 have steel hulls, and Nos. 3 and 4 have light metal hulls. Builders: Azuma Zosen Co. (Nos. 5 and 6), Hitachi Zosen Co. (Nos. 1 and 2), and Mitsubishi Zosen Co. (Nos. 3 and 4). Numbers 801 to 809 were assigned to PTs (fast patrol boats) on 1 Sep. 1957. Named *Gyoraieti* Nos. 1 to 9.

AMPHIBIOUS VESSELS



OOSUMI 1962, *Japanese Maritime Self-Defence Force, Official*

Tank Landing Ships

OOSUMI 4001 **SHIMOKITA** 4002 **SHIRETOKO** 4003

Displacement: 1,650 tons *standard* (4,080 tons *full load*)
Dimensions: 316 (w.l.), 348 (*o.a.*)×50×14 feet
Guns: 7—40 mm. AA., 2—20 mm. AA.
Machinery: General Motors diesels. 2 shafts. B.H.P.: 1,700=11·6 kts

Notes
Former United States tank landing ships *Daggett County*, *LST* 689, *Hillsdale County*, *LST* 835, and *Nansemond County*, *LST* 1064, built by Jeffersonville B. & M. Co., Jeffersonville, Ind.; American Bridge Co., Ambridge, Pa.; and Bethlehem Steel Co., Hingham, Mass., respectively. All built in 1944-45. Transferred from the U.S.A. under the Military Aid Program and commissioned in the Japanese Maritime Self Defence Force on 1 Apr. 1961. Named after homeland peninsulars.

Medium Landing Ships (*Yorikutei*)

LSM 3001 (ex-French *LSM* 9013, ex-U.S.S. *LSM* 125)

Displacement: 743 tons *beaching* (1,095 tons *full load*)
Dimensions: 196½ (*w.l.*), 203½ (*o.a.*)×34½×5½ (*beaching*), 8½ (*max.*) feet
Guns: 2—40 mm. AA.
Machinery: Diesels. 2 shafts. B.H.P.: 2,800=12·5 kts.
Complement: 60

Notes
LSM 3001 was transferred from the United States Navy to the French Navy in 1954 for use in Indo-China. She was returned by the French in 1957 to the U.S. Navy, and then transferred to the Japanese in 1958. Named *Yorikutei* No. 3001. Photograph in the 1958-59 to 1960-61 editions. (29 landing ships of 772 tons are being acquired from the United States Navy.)

Landing Craft

LCU 2001 **LCU 2002** **LCU 2003** **LCU 2004** **LCU 2005** **LCU 2006**
Displacement: 187 tons

LCM 1001—1042
Displacement: 22 tons

Notes
55 landing craft comprising six of 187 tons, twenty-nine of 22 tons and twenty of 8 tons were transferred from the United States, 2 June 1955. 13 LCMs numbered 1030—1042 were transferred from the United States under MAP in 1961.

AUXILIARIES

TOBA
Displacement: 390 tons
Dimensions: 126⅜×28×12 feet
Machinery: 1 diesel. B.H.P.: 1,200=11 kts.

Notes
AST category. Of wooden construction. Former name was LT 392.

SUMA Displacement: 115 tons
Dimensions: 70½×19×5 feet
Machinery: 1 diesel. B.H.P.: 600=12 kts.

Notes
ASR category of steel construction. Former name was YTL 749.

TOKUMU 1 **TOKUMU 3** **TOKUMU 7** **TOKUMU 8**

Notes
Rated as ASM. For miscellaneous service (*Tokumu*).

High Speed Boats (*Kosoku*)

KOSOKU 4 **KOSOKU 5**
Displacement: 30 tons
Dimensions: 75½×18×2½ feet
Machinery: 2 Packard engines. B.H.P.: 2,600=30 kts.

Notes
Of aluminium construction. Laid down on 10 Oct. 1958 and 11 Dec. 1958 at Mitsubishi, Shimonoseki Works under the 1958 Programme, launched on 11 Dec. 1958 and 2 Mar. 1959, and completed on 11 May 1959 and 12 June 1959, respectively. Pennant Nos.: ASH 04 and 05.

KOSOKU 1 **KOSOKU 2** **KOSOKU 3**
Displacement: 30 tons
Dimensions: 65¾×17×2¾ feet
Machinery: 2 petrol engines. B.H.P.: 3,000=42 kts.

Notes
ASH category. Of wooden construction. Former names were YS 01, YS 02, YS 03. All the above are Maritime Self-Defence Force auxiliaries.

KOSOKO 11. 12 **KOSOKU 21. 22. 23. 24. 25. 26. 27. 28. 29. 30**
Displacement: 30 tons
Dimensions: 63½×15½×6 feet
Machinery: 2 petrol engines. B.H.P.: 1, 200=33·5 kts.

Notes
Pennant Nos.: ASH 11, 12 and 21-26 were transferred under MAP in 1958-59. Pennant Nos.: ASH 27-30 were transferred under MAP in 1961-62.

Patrol Boats (*Shokai*)

SHOKAI 1, 2, 3, 4, 5, 6, 7 **SHOKAI 11, 12, 13, 14, 15, 16, 17, 18**
Displacement: 18 tons
Dimensions: 45½×13¾×3½ feet
Machinery: 2 diesels. B.H.P.: 450=16 kts.

Notes
These 18 vessels were transferred to Japan under the MAP programme in 1958.

Oiler (AO)

HAMANA
Displacement: 3,500 tons *light* (7,550 tons *full load*)
Dimensions: 420×51½×20½ feet
Guns: 2—40 mm. AA.
Machinery: Diesel. B.H.P.: 5,000=16 kts.

Notes
Authorised under the 1960 fiscal year programme. Built by Uraga Dock Co. Laid down on 17 Apr. 1961, launched on 24 Oct. 1961, and completed in May 1962. Named after the lake.

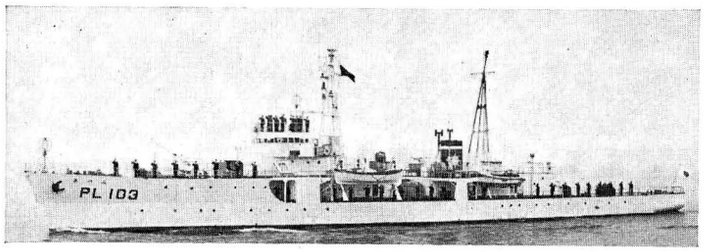
Tugs

Notes
One rescue tug (ATR) was launched in 1956, and another was built at the end of the year.

MARITIME SAFETY BOARD

Personnel: 11,078 as of 1 Jan. 1962

LARGE PATROL VESSELS



ATSUMI 1961, *Hajime Fukaya*

4 " Ukuru " Class (ex-Frigates)

KOJIMA (ex-*Shiga*) PL 106
OJIKA (ex-*Ikuna*) PL 102
SATSUMA (ex-*Ukuru*) PL 104
TSUGARU (ex-*Shinnan*) PL 105

Displacement:	940 tons *standard* (1,020 tons *trials*)
Dimensions:	258½ (*o.a.*) × 30 × 10 feet
Guns:	1—3 inch, 50 cal.; 2—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 3,000 = 18·5 kts.
Radius:	5,000 miles at 16 kts.

Notes

Former naval escorts or frigates of the " Ukuru " class, of the Imperial Japanese Navy. Launched in 1944-45. Now employed both as patrol vessels and as weather ships. Sister ship *Atsumi* (ex-*Chikubu*) PL 103 was officially deleted from the list in 1962.

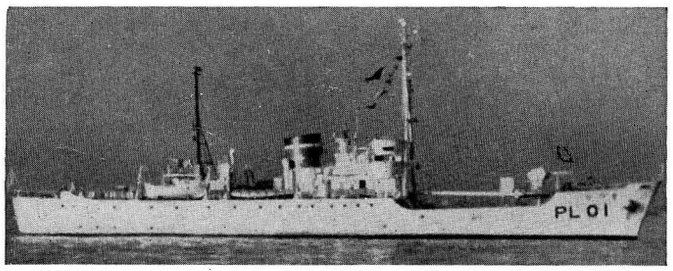
4 " Nojima " Class

NOJIMA PL 11

Displacement:	950 tons *standard*, 980 tons *normal*
Dimensions:	208¾ (*pp.*), 226½ (*o.a.*) × 30¼ × 10½ feet
Machinery:	2 sets diesels. B.H.P.: 3,000 = 17·5 kts.
Radius:	6,000 miles at 14 kts.

Notes

Built by Uraga Dock Co. Ltd. Laid down on 27 Oct. 1961, launched on 12 Feb. 1962, and completed on 30 Apr. 1962. Three more patrol vessels of this type are under construction.



MUROTO *Japanese Maritime Safety Board, Official*

2 " Muroto " Class

DAIO PL 02
MUROTO PL 01

Displacement:	750 tons *standard* (840 tons *normal*)
Dimensions:	182 (*pp.*), 200 (*o.a.*) × 30½ × 10¼ feet
Guns:	1—3 inch, 50 cal.; 2—20 mm. AA.
Machinery:	2 sets, 4 cycle single acting diesels, 270 r.p.m. B.H.P.: 1,500 = 15·37 kts. (*trials*), 12 kts. (*service*)

Notes

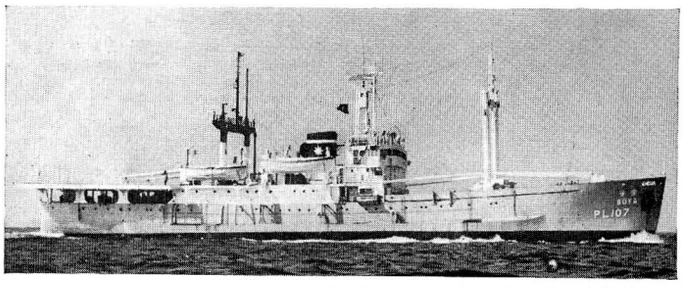
Muroto, built by Uraga Dock Company Ltd., Tokyo, was laid down on 16 Aug. 1949, launched on 5 Dec. 1949, and delivered on 20 Mar. 1950 to the Maritime Safety Board. Rated as Large Patrol Vessels. Vertical tubular donkey boiler, three generators, wireless, radar, direction finder, echo-sounder, etc.; novel streamlined bridge wings.

MIURA PL 101

Displacement:	630 tons *standard* (879 tons *normal*)
Dimensions:	160¾ (*pp.*), 175½ (*o.a.*) × 31¼ × 11¼ × feet
Guns:	1—3 inch, 50 cal.; 2—20 mm. AA.
Machinery:	Reciprocating. 2 shafts. I.H.P.: 2,200 = 12 kts.
Boilers:	2

Notes

Former naval tug. Completed on 5 Dec. 1944.



SOYA (after third conversion) 1959, *Japanese Maritime Safety Board, Official*

SOYA PL 107

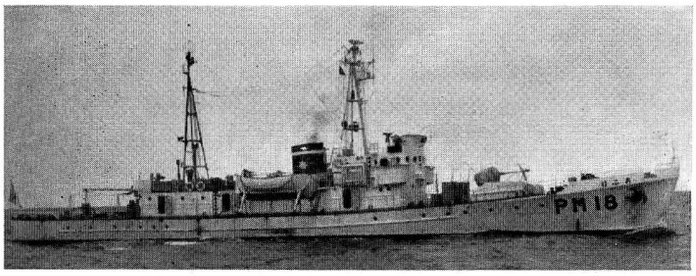
Displacement:	4,364 tons *normal* (4,818 tons *full load*) officially revised figures
Dimensions:	259¼ (*w.l.*) × 51⅝ (*including bulge*) × 18⅞ feet
Aircraft:	4 helicopters (see *Notes*)
Machinery:	2 sets diesels. B.H.P.: 4,800 = 12·529 kts. on trials
Radius:	16,400 miles at 11 kts.
Complement:	96

Notes

Originally a large Lighthouse Supply Ship and Navigational Aid Vessel (LL) but converted by Asano Dockyard of Nippon Steel Tube Co. Ltd. into a South Pole Research Ship. Her first conversion began on 12 Mar. 1956 and was completed on 10 Oct. 1956.

The second conversion began on 1 July 1957 and was completed on 30 Sep. 1957. The third conversion was completed on 5 Oct. 1958. She now carries two Sikorsky S—58 helicopters and two Bell 47G-2 helicopters on a new flight platform laid on the quarter deck for exploration and surveying in the Antarctic. She is designed for breaking ice more than 4 feet thick.

MEDIUM PATROL VESSELS

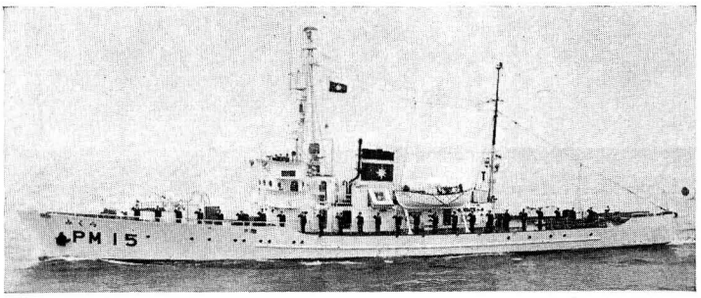


CHIFURI 1962, *Japanese Maritime Safety Board, Official*

5 " Chifuri " Class

CHIFURI PM 18
KUROKAMI PM 19
KOZU PM 20
SHIKINE PM 21
DAITO PM 22

Displacement:	465 tons *standard* (483 tons *normal*)
Dimensions:	169 (*pp.*), 177 (*w.l.*) × 25½ × 8 5/16 feet (*normal*)
Guns:	1—3 inch, 50 cal.; 1—20 mm. AA.
Machinery:	2 sets diesels. B.H.P.: 1,300 = 15·8 kts.
Radius:	4,400 miles at 12 kts.



MIKURA 1961, *Official*

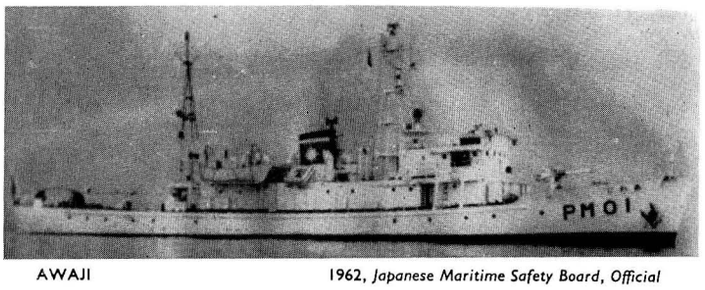
14 " Rebun " Class

REBUN PM 04
IKI PM 05
OKI PM 06
GENKAI PM 07
HACHIJO PM 08
AMAKUSA PM 09
OKUSHIRI PM 10
KUSAKAKI PM 11
RISHIRI PM 12
NOTO PM 13
HEKURA PM 14
MIKURA PM 15
KOSHIKI PM 16
HIRADO PM 17

Displacement:	450 tons *standard* (488 tons *trials*, 495 tons *normal*)
Dimensions:	155½ (*pp.*), 164 (*w.l.*), 170⅜ (*o.a.*) × 26½ × 8½ feet
Guns:	1—3 inch, 50 cal.; 1—20 mm. AA.
Machinery:	2 sets diesels. B.H.P.: 1,300 = 15 kts.
Radius:	3,000 miles at 12 kts.

Notes

PM 01-03 were completed in 1950, PM 04-17 in 1951 and PM 18-22 in 1952. Vessels of a new design resembling United States Coast Guard Cutters.



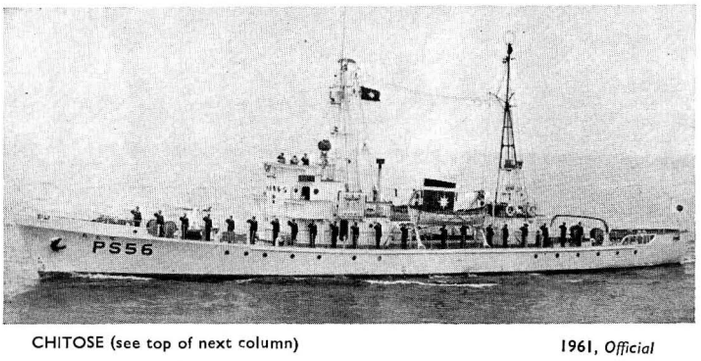
AWAJI 1962, *Japanese Maritime Safety Board, Official*

3 " Awaji " Class

AWAJI PM 01
MIYAKE PM 02
SADO PM 03

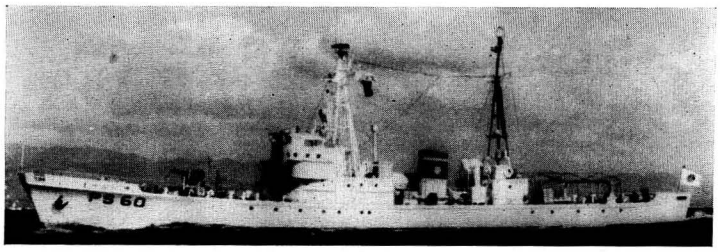
Displacement:	510 tons *standard* (550 tons *normal*)
Dimensions:	172 (*o.a.*) × 26¾ × 9¼ feet
Guns:	1—3 inch, 50 cal.; 1—20 mm. AA.
Machinery:	2 sets diesels. B.H.P.: 1,300 = 15 kts.
Radius:	3,000 miles at 12 kts.

SMALL PATROL VESSELS



CHITOSE (see top of next column) 1961, *Official*

Small Patrol Vessels—*continued*



MATSUURA 1962, *Japanese Maritime Safety Board, Official*

2 " Matsuura " Class

MATSUURA PS 60 **SENDAI** PS 61

Displacement: 420 tons *standard* (425 tons *normal*)
Dimensions: 163½ (*pp.*), 181½ (*o.a.*) × 23 × 7½ feet
Guns: 1—20 mm. AA.
Machinery: 2 sets diesels. B.H.P.: 1,400 = 16·5 kts.
Radius: 3,500 miles at 13 kts.

Notes

Built by Osaka Shipbuilding Co. Ltd. *Matsuura* was laid down on 16 Oct. 1960, launched on 24 Dec. 1960 and completed on 18 Mar. 1961. *Sendai* was laid down on 23 Aug. 1961, launched on 18 Jan. 1962 and completed on 21 Apr. 1962.

6 " Yahagi " Class

CHITOSE PS 56 **SORACHI** PS 57 **YAHAGI** PS 54
HORONAI PS 59 **SUMIDA** PS 55 **YUBARI** PS 58

Displacement: 333·15 tons *standard*, 375·7 tons *normal*
Dimensions: 147¼ (*pp.*), 157¼ (*w.l.*) × 24 × 7⅜ feet (*normal*)
Guns: 1—40 mm. AA.
Machinery: 2 sets diesels. B.H.P.: 1,400 = 15·5 kts.
Radius: 4,000 miles at 12 kts.

Notes

All built by Niigata Engineering Co. Ltd. *Yahagi* was laid down on 9 Dec. 1955, launched on 19 May 1956 and completed on 31 July 1956. *Sumida* was completed on 30 June 1957. *Chitose* was laid down on 20 Sep. 1957, launched on 24 Feb. 1958 and completed on 30 Apr. 1958. *Sorachi* was completed in Mar. 1959. *Yubari* was completed on 15 Mar. 1960. *Horonai* was completed on 4 Feb. 1961. A photograph of *Yahagi* appears in the 1959-60 and 1960-61 editions.



TESHIO 1962, *Japanese Maritime Safety Board, Official*

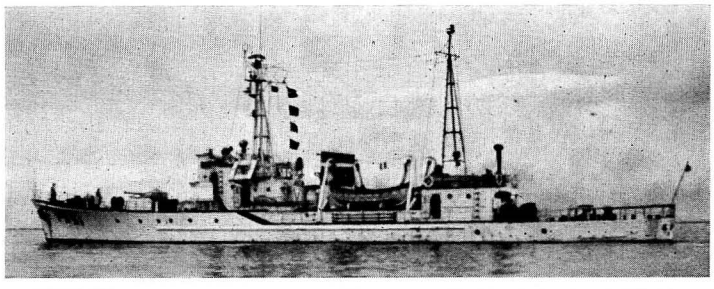
1 " Teshio " Class

TESHIO PS 53

Displacement: 421·5 tons *normal*
Dimensions: 149⅜ (*pp.*), 159 (*w.l.*) × 23 × 8¼ feet
Guns: 1—40 mm. AA.
Machinery: 2 sets diesels. B.H.P.: 1,400 = 15·71 kts.
Radius: 3,690 miles at 12 kts.

Notes

Built by Uraga Dock Co. Ltd. Laid down on 15 Sep. 1954, launched on 12 Jan. 1955 and completed on 19 Mar. 1955



TOKACHI 1962, *Japanese Maritime Safety Board, Official*

2 " Tokachi " Class

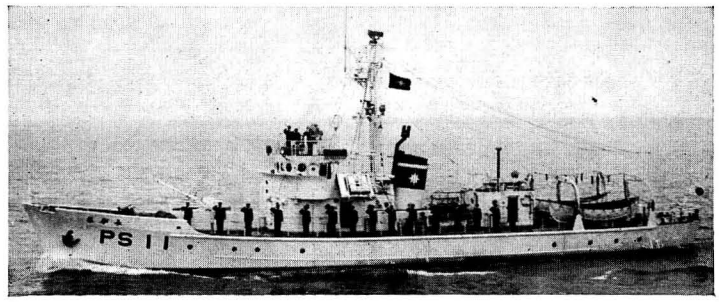
TOKACHI PS 51 **TATSUTA** PS 52

Displacement: 336 tons *standard*, 381 tons *normal* (*Tokachi*)
324 tons *standard*, 369 tons *normal* (*Tatsuta*)
Dimensions: 157½ (*pp.*), 164 (*w.l.*), 170 (*o.a.*) × 21⅝ × 11⅛ feet
Guns: 1—40 mm. AA.
Machinery: 2 sets of 4 cycle single acting diesels.
B.H.P.: 1,500 = 16 (*max.*), 12 kts. (*service*) (*Tokachi*)
1,400 = 15 (*max.*), 12 kts. (*service*) (*Tatsuta*)
Radius: 3,824 miles at 12 kts. (*Tokachi*)
3,930 miles at 12 kts. (*Tatsuta*)

Notes

Tokachi was built by Harima Dockyard, Kure. Laid down on 14 Nov. 1953, launched on 8 May 1954 and completed on 31 July 1954. *Tatsuta* was completed on 10 Sep. 1954. A photograph of *Tatsuta* appears in the 1955-56 to 1958-59 editions.

Small Patrol Vessels—*continued*



MOGAMI 1961, *Official*

3 " Nagara " Class

NAGARA PS 18 **TONE** PS 19 **KITAKAMI** PS 20

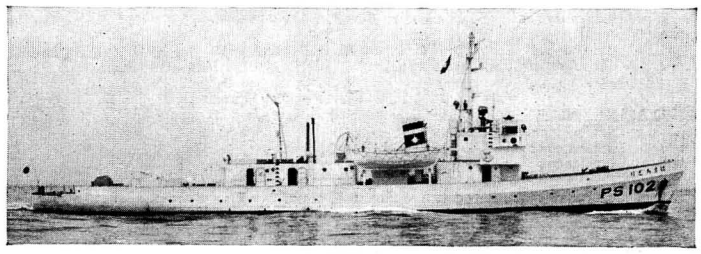
17 " Kuma " Class

KUMA PS 01 **SAGAMI** PS 06 **YOSHINO** PS 12
FUJI PS 02 **OYODO** PS 07 **NOSHIRO** PS 13
TENRYU PS 03 **KUZURYU** PS 08 **KISO** PS 14
ISUZU PS 04 **ABUKUMA** PS 09 **SHINANO** PS 15
ISHIKARI PS 05 **KIKUCHI** PS 10 **CHIKUGO** PS 16
MOGAMI PS 11 **KUMANO** PS 17

Displacement: 258 tons *standard*, 275 tons *normal*
Dimensions: 122 (*pp.*), 126½ (*w.l.*), 132¼ (*o.a.*) × 23 × 7½ feet
Guns: 1—40 mm. AA.
Machinery: 2 sets diesels. B.H.P.: 800 = 13·6 kts.
Radius: 2,000 miles at 12 kts.

Notes

Kuma was built by Nihon Kokan Ltd., Tsurumi Dockyard, laid down on 29 Sep. 1950, launched on 12 Jan. 1951 and completed on 24 Mar. 1951.



HAMACHIDORI 1959, *Japanese Maritime Safety Board, Official*

11 " Kawachidori " Class

KAWACHIDORI PS 101 **TOMOCHIDORI** PS 105 **MURACHIDORI** PS 109
HAMACHIDORI PS 102 **OKICHIDORI** PS 106 **SHIMACHIDORI** PS 112
ASACHIDORI PS 103 **SAWACHIDORI** PS 107 **HARUCHIDORI** PS 115
MIOCHIDORI PS 104 **WAKACHIDORI** PS 108

Displacement: 300 tons
Dimensions: 152⅔ (*o.a.*) × 22½ × 7½ feet
Machinery: 2 diesels. B.H.P.: 800 = 14 kts.

Notes

Former naval aircraft rescue vessels, now employed as local patrol vessels.

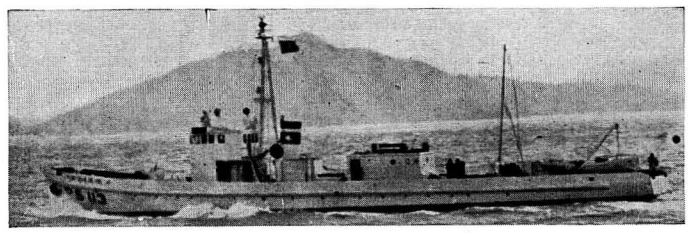
5 " Kasasagi " Class

WAKASAGI PS 122 **HATO** PS 133 **HINAZURU** PS 142
SEKIREI PS 128 **HOOJIRO** PS 143

Displacement: 112 tons
Dimensions: 95⅘ (*o.a.*) × 18⅘ × 6½ feet
Machinery: 1 diesel. B.H.P.: 400 = 11 kts.

Notes

Auxiliary Submarine Chaser type, built of wood. *Oshidori*, *Yamasemi* and *Kotaka* were discarded in 1956, *Kawasemi* and *Shigi* in 1957, *Hayabusa* and *Yamadori* in 1958, *Kasasagi* and *Shirataka* in 1959, *Uguisu*, *Tsugumi*, *Hatsukari*, *Chidori*, *Uzura* and *Yamagara* in 1960, *Manazuru*, *Hibari*, *Kamome* and *Aosagi* in 1961.



SAYOCHIDORI 1956, *courtesy Lieut.-Com. G. R. G. Murray, R.N.*

8 " Kabashima " Group

KABASHIMA PS 100 **SAYOCHIDORI** PS 113 **KOMADORI** PS 152
NAMICHIDORI PS 110 **IWACHIDORI** PS 114 **HAYABUSA** PS 153
ISOCHIDORI PS 111 **FUJITAKA** PS 151

Notes

Small patrol vessels displacing from 93 to 220 tons. *Jinryu-Maru* was discarded in 1956 PS 151 *Fujitaka* was formerly *Aichi-Maru*. PS 152 *Komadori* was formerly *Kojo-Maru*. PS 153 *Hayabusa* was formerly *Hayabusa-Maru*.

1 Special Rescue Type

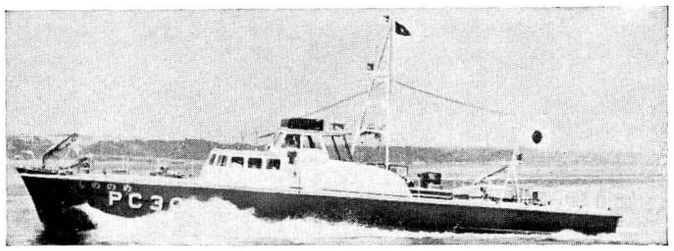
TSUKUBA PS 31

Displacement: 65 tons
Dimensions: 80½ × 21½ × 3⅔ feet
Machinery: 2 Niigata diesels. B.H.P.: 900 = 18·44 kts. (trials) 16 kts. continuous sea speed
Radius: 300 miles at 12 kts.

Notes

Special rescue patrol boat built to suit local conditions by Hitachi Zosen at the Kanagawa Shipyard and completed on 30 Mar. 1962.

PATROL CRAFT



SHINONOME 1955, *Japanese Maritime Safety Board, Official*

10 " Shinonome " Class

SHINONOME	PC 30	**YAEGUMO**	PC 33	**TATSUGUMO**	PC 36
HATAGUMO	PC 31	**ASAGUMO**	PC 34	**HANAYUKI**	PC 37
MAKIGUMO	PC 32	**NATSUGUMO**	PC 35	**MINEYUKI**	PC 38
				ISOYUKI	PC 39

Displacement: 43 to 46 tons normal
Dimensions: 69 × 17¼ × 3½ feet (*Hatagumo, Makigumo, Shinonome, Yaegumo*)
69 × 17½ × 3¼ feet (*Asagumo, Natsugumo, Tatsugumo*)
Machinery: 2 diesels. B.H.P.: 1,400=21 kts.
2 diesels. B.H.P.: 1,000=18·8 kts. (*Shinonome* only)
Complement: 9

Notes

Hanayuki and *Mineyuki* were completed in Mar. 1959. *Asagumo* and *Natsugumo* were completed on 15 Mar. 1955 and 31 Mar. 1955, respectively. *Tatsugumo* was completed on 31 May 1955. *Isoyuki* was completed on 29 Feb. 1960. All the others were completed before Oct. 1954.

24 " Hatsunami " Class

HATSUNAMI	PC 01	**CHIYONAMI**	PC 09	**TERUZUKI**	PC 17
AYANAMI	PC 02	**HAYANAMI**	PC 10	**URAZUKI**	PC 18
ISONAMI	PC 03	**HATSUZUKI**	PC 11	**WAKAZUKI**	PC 19
URANAMI	PC 04	**HANAZUKI**	PC 12	**YAMAZUKI**	PC 20
KIYONAMI	PC 05	**KIYOZUKI**	PC 13	**HARUZUKI**	PC 21
OKINAMI	PC 06	**MOCHIZUKI**	PC 14	**NATSUZUKI**	PC 22
TAMANAMI	PC 07	**NIIZUKI**	PC 15	**AKIZUKI**	PC 23
SUZUNAMI	PC 08	**SUZUTSUKI**	PC 16	**FUYUZUKI**	PC 24

Displacement: 45 tons *normal*
Dimensions: 75½ (*o.a.*) × 15⅛ × 3½ feet
Machinery: 2 diesels. B.H.P.: 700=14 kts.

Notes

Rated as local patrol boats. Seaward defence patrol craft and small submarine-chaser type. A photograph of *Suzutsuki* appears in the 1953-54 to 1960-61 editions.

1 " Mutsuki " Type

MUTSUKI PC 25

Displacement: 55 tons *normal*
Dimensions: 83¾ (*o.a.*) × 16 × 3½ feet
Machinery: 2 diesels. B.H.P.: 1,000=15 kts.

Notes

General purpose vessel rated as a local patrol craft.

Harbour Defence Types

CL 01 to **CL 158** **HATSUKAZE** (CL 13) **KAWAKAZE** (CL 11) **UMIKAZE** (CL 08)

Notes

53 harbour patrol boats of various types raging from 12 to 106 tons displacement. A photograph of *CL 11* appears in the 1953-54 to 1960-61 editions.



ARAKAZE *Added* 1958, *Japanese Maritime Safety Board, Official*

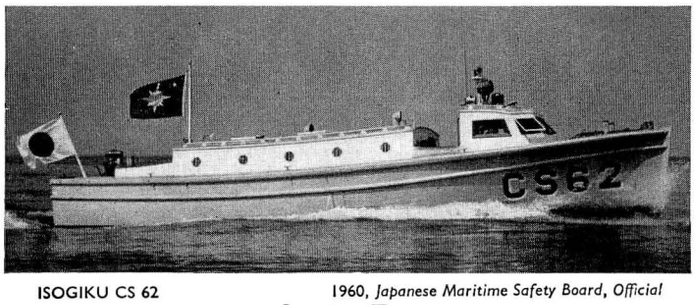
Coastal Launch Type

ARAKAZE	CL 14	**HATAKAZE**	CL 17	**NATSUKAZE**	CL 20
HARUKAZE	CL 15	**MATSUKAZE**	CL 18	**YUKIKAZE**	CL 21
SACHIKAZE	CL 16	**IWAKAZE**	CL 19	**SHIMAKAZE**	CL 22
				YUKAZE	CL 23

Displacement: 16 tons *normal*
Dimensions: 49½ × 13⅜ × 2⅜ feet
Machinery: 2 diesels. B.H.P.: 440=20·5 kts.

Notes

Arakaze is constructed of light alloy, welding having been used for approx. 40 per cent of the hull; she was laid down on 11 Nov. 1953, launched on 11 Feb. 1954 and completed on 29 Mar. 1954. *Harukaze, Hatakaze, Iwakazem Matsukaze, Natsukaze* and *Sachikaze* are of wooden construction. *Natsukaze* was completed on 15 Feb. 1960.



ISOGIKU CS 62 1960, *Japanese Maritime Safety Board, Official*

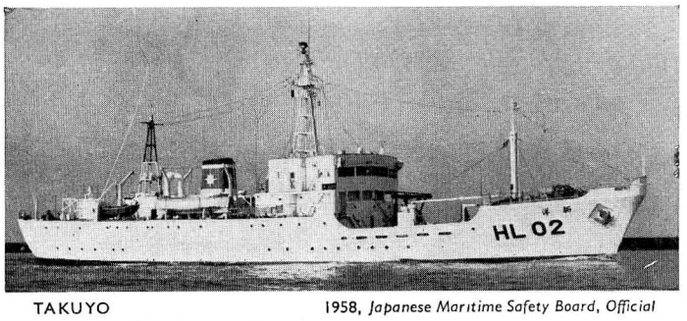
Service Types

CS 01 to **CS 126**

Notes

79 small craft of various displacements. There are also 7 CF boats (fire-fighting) and 18 CR boats (rescue).

SURVEYING VESSELS



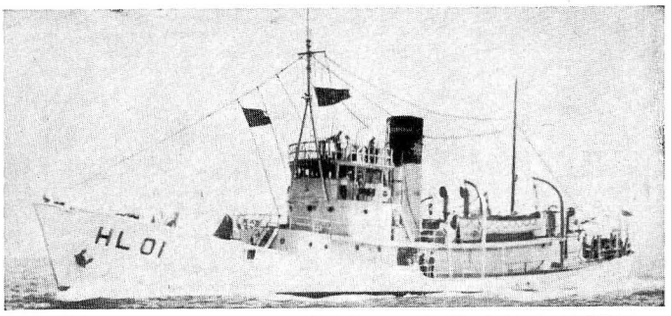
TAKUYO 1958, *Japanese Maritime Safety Board, Official*

TAKUYO HL 02

Displacement. Approx. 880 tons *standard*, 930 tons *normal*
Dimensions: 185 (*pp.*), 192¾ (*w.l.*) × 31⅛ × 10¾ feet (*normal*)
Machinery: 2 sets diesels. B.H.P.: 1,300=14 kts. (*max.*)
Radius: 8,000 miles at 12 kts.

Notes

Built for the Maritime Safety Board by Niigata Engineering Co. Ltd. Laid down on 19 May 1956, launched on 19 Dec. 1956, and completed in March 1957. Equipped with a wide range of surveying equipment.



MEIYO 1955, *Japanese Maritime Safety Board, Official*

MEIYO HL 01

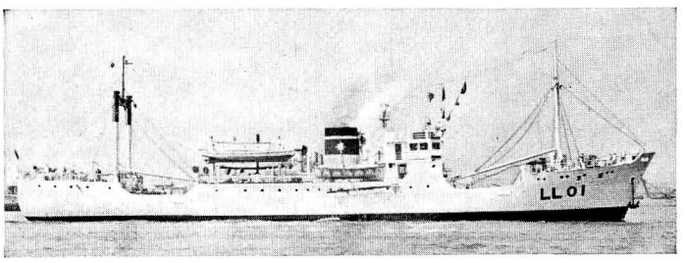
Displacement: 630 tons
Dimensions: 144¾ × 27 × 14 feet
Machinery: H.P.: 1,400
Radius: 3,500 miles at 10 kts.

Notes

Purchased from the Kyokuyo Whaling Co. Ltd., on 28 Mar. 1953. Former whaling ship, now converted into a survey vessel. Formerly named *Meiyo-Maru.*

There are also 3 HM's and 19 HS's, ranging from 5 to 7 tons.

TENDERS



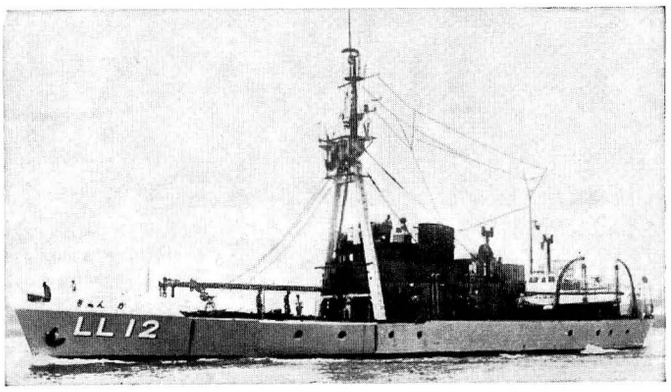
WAKAKUSA 1958, *Japanese Maritime Safety Board, Official*

WAKAKUSA LL01

Displacement: 1,815 tons
Dimensions: 204 × 32½ × 19⅛ feet
Machinery: H.P.: 1,850

Notes

Built by Hitachi Innoshima Dockyard in Mar. 1946. Purchased from Osaka Shosen Kaisha in Jan. 1956. Rated as Navigation Aid Vessel (Lighthouse Tender).



GINGA 1955, *Japanese Maritime Safety Board, Official*

GINGA LL 12 **HOKUTO** LL 11 **KAIO** LL 13

Displacement: 500 tons
Dimensions: 128⅜ × 31⅛ × 13⅝ feet
Machinery: 2 diesels. B.H.P.: 420=11·26 kts.
Radius: 2 800 miles at 10 kts.

Notes

Ginga was built by Osaka Shipbuilding Co. Ltd. Laid down on 11 Nov. 1953, launched on 6 May 1954 and completed on 30 June 1954. Equipped with 15 ton derrick for laying buoys. Rated as Navigation Aid Vessels (Buoy Tenders).

In addition to the above, there are also 6 LM's and 79 LS's for navigation aid services.

KOREA

Administration

Chief of Naval Operations:
Vice-Admiral Lee, Song Ho.

Commander-in-Chief of Fleet:
Rear Admiral Lee, Maeng Ki.

Naval Attaché in London:
Colonel Bong Hi Chun

Personnel

1962: 1,850 officers, 450 midshipmen, 14,300 men.
Total 16,600

FRIGATES

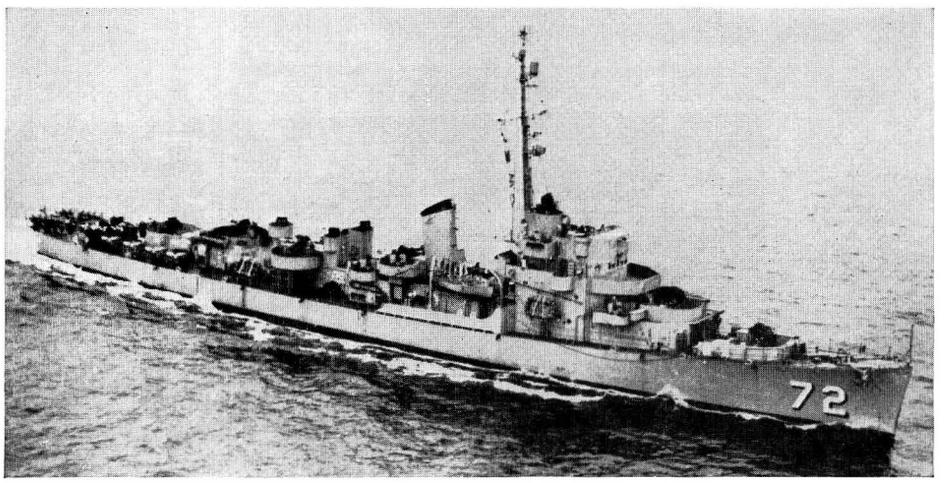
2 Ex-U.S. "Bostwick" Type Destroyer Escorts

KANG WON (ex-U.S.S. *Sutton*, *DE* 771)
KYONG KI (ex-U.S.S. *Muir*, *DE* 770)

Name:	*Kang Won*	*Kyong Ki*
Pennant No..	DE 72	DE 71
Builders:	Tampa S.B. Co.	Tampa S.B. Co.
Launched:	6 Aug. 1944	4 June 1944
Completed:	22 Dec. 1944	30 Aug. 1944

Displacement: 1,240 tons *standard* (1,900 tons *full load*)
Dimensions: 306 (*o.a.*) × 36⅜ × 10¾ (*mean*), 14 (*max.*) feet
Guns: 3—3 inch, 50 cal. d.p.; 3—40 mm. AA.; 8—20 mm' AA.
Machinery: General Motors diesels with electric drive. 2 shafts. B.H.P.: 6,000= 20 kts. sea speed
Oil fuel: 300 tons
Radius: 11,500 miles at 11 kts.
Complement: 208

Notes
Former American destroyer escorts, DE, of the "Bostwick" class. Transferred from the United States Navy at Boston in 1956 under the Mutual Defense Assistance Program. The 3—21 inch torpedo tubes originally mounted were removed. Named after Korean States.



KANG WON — 1958 *Korean Navy, Official*

4 Ex-U.S. "Tacoma" Type Patrol Vessels (Frigates)

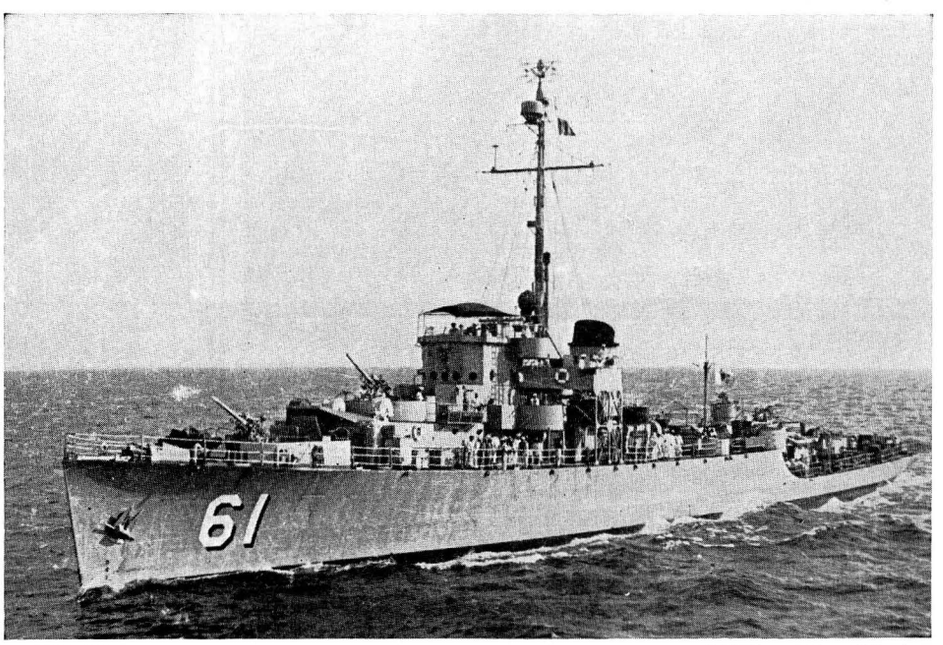
IMCHIN (ex-U.S.S. *Sausalito*, *PF* 4)
DUMAN (ex-U.S.S. *Muskogee*, *PF* 49)
NAKTONG (ex-U.S.S. *Hoquiam*, *PF* 5)
TAEDONG (ex-U.S.S. *Tacoma*, *PF* 3)

Displacement: 1,430 tons *standard* (2,415 tons *ful load*)
Dimensions: 304 (*o.a.*) × 37½ × 13⅜ (*max*) feet
Guns: 3—3 inch, 50 cal., d.p., 2—40 mm., 9—20 mm. AA.
Machinery: Triple expansion. 2 shafts. I.H.P.· 5,500=20 kts. Sea speed 18 kts.
Boilers: 2
Oil fuel: 645 tons
Radius: 9,500 miles at 12 kts.
Complement: 180

Notes
Former United States frigates, PF, of the "Tacoma" class. Transferred to Russia under the Lend-Lease scheme during the Second World War. Returned to the U.S. Navy after hostilities and laid up at Yokosuka naval base. Reactivated on outbreak of Korean War. First pair loaned to ROK Navy and commissioned 5 Nov. 1950. Second pair transferred to South Korean Navy on 8 Oct. 1951 at Yokosuka. *Apnok*, ex-U.S.S. *Rockford* (*PF* 48) in collision on 21 May 1952, decommissioned, returned to the U S.N. and expended as target in 1953. Replaced by *Imchin*.

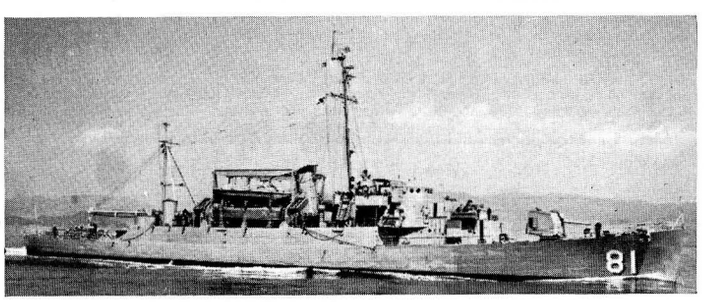
Pennant No	*Name*	*Builders*
PF 61	*Duman*	Consolidated Steel Corpn.
PF 65	*Naktong*	Permanente Metals Corpn.
PF 63	*Taedong*	Permanente Metals Corpn.
PF 66	*Imchin*	Kaiser Cargo Inc.

Name	*Laid down*	*Launched*	*Completed*
Duman	18 Sep. 1943	18 Oct. 1943	16 Mar. 1944
Naktong	10 Apr. 1943	31 July 1943	8 May 1944
Taedong	10 Mar. 1943	7 July 1943	6 Nov. 1944
Imchin	7 Apr. 1943	20 July 1943	4 Mar. 1944



DUMAN — 1958, *Korean Navy, Official*

FAST TRANSPORT



KYONG NAM — 1961, *Korean Navy, Official*

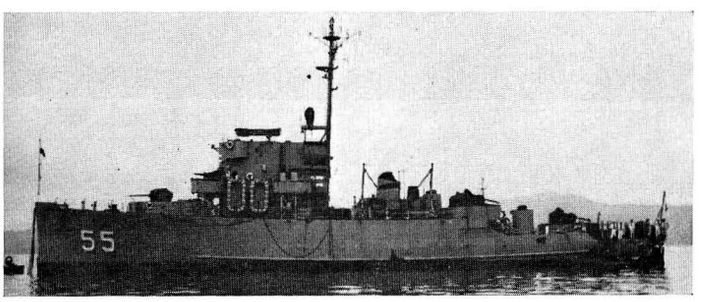
Ex-U.S. Modified Destroyer Escort

KYONG NAM APD 81 (ex-U.S.S. *Cavallaro*, *APD* 128, ex-*DE* 712)

Displacement: 1,400 tons *standard*, 1,650 tons *trials* (2,130 tons *full load*)
Dimensions: 300 (*w.l.*), 306 (*o.a.*) × 37 × 12⅝ (*max.*) feet
Guns: 1—5 inch, 38 cal. d.p.; 6—40 mm. AA.
Machinery: General Electric turbines with electric drive. 2 shafts. S.H.P.: 12,000=23·6 kts. (*trials*)
Boilers: 2 "D" Express
Oil fuel: 350 tons:
Radius: 5,500 miles at 15 kts.
Complement: 210 plus 162 troops

Notes
Former American high speed transport, APD, modified destroyer escort. Transferred to Korea under the Mutual Defense Assistance Program in 1959. Built by the Defoe Shipbuilding Co., Bay City, Mich. Laid down on 28 Mar. 1944. Launched on 15 June 1944. Completed on 13 Mar. 1945. Pennant No. 81.

ESCORT VESSELS



OK PO — 1961, *Korean Navy, Official*

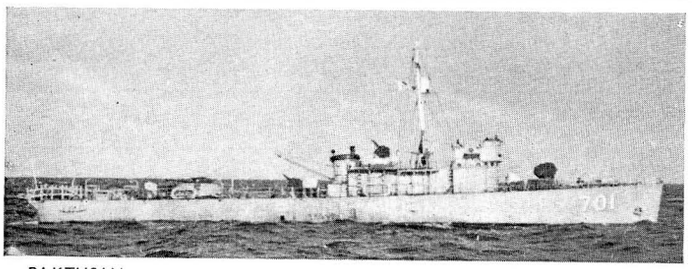
8 Ex-U.S. "180 ft." Steel PCE Type

HANSAN PCEC 53 (ex-U.S.S. *PCEC* 873)
MYONG RYANG PCEC 52 (ex-U.S.S. *PCEC* 896)
OKPO PCEC 55 (ex-U.SS. PCEC 896)
PYOK PA PCE 57 (ex-U.S.S. *Dania*, *PCE* 870)
RO RYANG PCEC 51 (ex-U.S.S. *PCEC* 882)
RYUL PO PCE 58 (ex-U.S.S. *Somerset*, *PCE* 892)
SA CHON PCE 59 (ex-U.S.S. *Batesburg*, *PCE* 903)
TANG PO PCE 56 (ex-U.S.S. *Marfa*, *PCE* 842)

Displacement: 640 tons *standard* (967 tons *full load*)
Dimensions: 180 (*w.l.*), 184½ (*o.a.*) × 33¾ × 10 (*max.*) feet
Guns: 1—3 inch, 50 cal., d.p.; 3—40 mm. AA.; 8—20 mm. AA.
Machinery: Diesels. 2 shafts. B.H.P.: 2,000=14·3 kts. sea speed
Oil fuel: 260 tons
Radius: 4,300 miles at 10 kts.
Complement: 104

Notes
Transferred 1955 (*Myong Ryang*, *Ro Ryang*) 1956 (*Hanson*, *Okpo*) and 1961. Built 1942-45.

PATROL VESSELS



PAKTUSAN 1958, *Korean Navy, Official*

4 Ex-U.S. "173 ft." Steel PC Type

HANLASAN PC 705 (ex-*PC* 485)
KUM CHONG SAN PC 708 (ex-U.S.S. *Grosse Point, PC* 1546)
MYOHYANGSAN PC 706 (ex-*PC* 600)
O TAE SAN PC 707 (ex-U.S.S. *Winnemucca, PC* 1145)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173⅜ (*o.a.*) × 23 × 10¾ (*max.*) feet
Guns:	1—3 inch, 50 cal., d.p.; 1—40 mm. AA.; 4—20 mm. AA.
A/S Weapons:	2 ASW rocket launchers (mousetrap)
Machinery:	Diesels. 2 shafts. B.H.P.: 2,880=20 kts.
Complement:	71

Notes

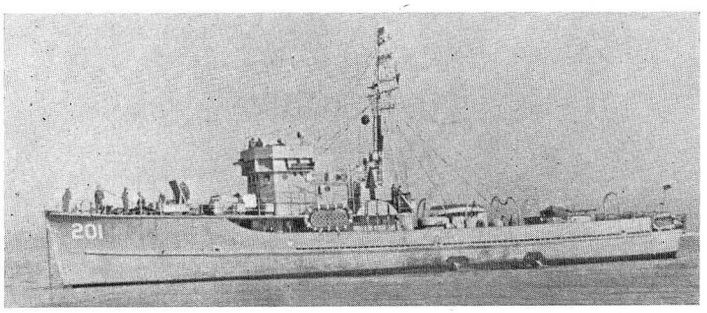
Former United States submarine chasers, PC, of steel construction built in 1941-42. *Kum Chong San* and *O Tae San* were transferred on loan from the United States to the Korean Navy at Seattle on 21 Nov. 1960 and 1 Nov. 1960, respectively. *Pak Tu San*, PC 701 (ex-*Ensign Whitehead*, ex-*PC* 823), *Kum Kang San*, PC 702, (ex-*PC* 810) and *Sam Kak San*, PC 703 (ex-*PC* 802) were decommissioned on 21 Aug. 1960 and subsequently scrapped. *Chirisan, PC* 704, was mined and sank off Wonsan, Korea, on 26 Dec. 1951.

New Construction

It was reported in 1960 that South Korea is to design and construct a diesel-powered patrol boat, mounting machine guns.

Submarine Notes

It was reported in 1960 that Korea will acquire her first submarine through U.S. aid.



SUSEONG 1962, *Korean Navy, Official*

4 Ex-U.S. "136ft." Wooden PCS Type

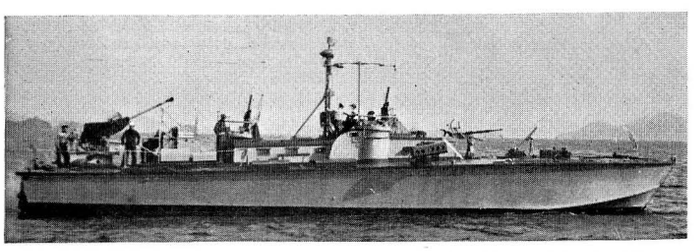
SUSEONG PCS 201 (ex-*PCS* 1426) **MOKSEONG PCS 203** (ex-*PCS* 1446)
KUMSEONG PCS 202 (ex-*PCS* 1445) **HWASEONG PCS 205** (ex-*PCS* 1448)

Displacement:	251 tons *standard* (338 tons *full load*)
Dimensions:	130 (*w.l.*), 136 (*o.a.*) × 24½ × 8½ feet
Guns:	1—40 mm. 2—20 mm.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 800=14 kts.

Notes

Former United States Submarine Chasers of the *PCS* type, of wooden construction, built in 1943-44. Acquired by Korea in 1952. *Kaesong PCS* 504, *Kilchu PCS* 514 and *PCS* 518 (ex-*YMS* of same numbers) used as gunboats, were de-commissioned in 1955-56.

MOTOR TORPEDO BOATS



JEBI 1959, *Korean Navy, Official*

3 Ex-U.S. PT Type

JEBI PT 27 (ex-U.S.S. *PT* 620) **KALMAEKI PT 23** (ex-*PT* 616) **KIROKI PT 25** (ex-*PT* 619)

Displacement:	33 tons *standard* (56 tons *full load*)
Dimensions:	80½ × 20¾ × 5 feet
Guns:	1—40 mm., 2—20 mm., 8 M.G.
Tubes:	4 torpedo launching racks
Machinery:	Packard. 3 shafts. B.H.P.: 4,050=41 kts. (designed)
Complement:	17

Notes

Former United States Navy motor torpedo boats of plywood hull construction built by the Electric Boat Co., Bayonne, N.J. in 1945. Transferred to the Republic of Korea Navy in Jan. 1952. *Olpamei PT* 26 (ex-U.S.S. PT 613) was destroyed in Sep. 1952 while on loan to the Republic of Korea.

LANDING CRAFT REPAIR SHIP

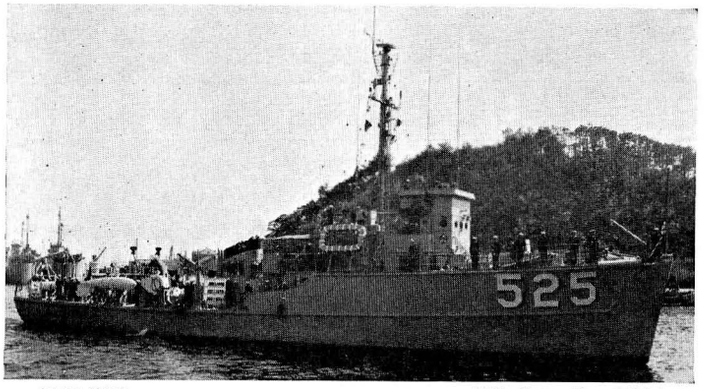
DUKSOO (ex-U.S.S. *Minotaur, ARL* 15, ex-*LST* 645)

Displacement:	2,366 tons *standard* (4,100 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11¼ feet
Guns:	2—40 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,800=11·5 kts.
Complement:	277

Notes

Former American landing craft repair ship. Built by Chicago Bridge & Iron Co., Seneca Del. Laid down on 20 June 1944, launched on 20 Sep. 1944 and completed on 30 Sep. 1944

COASTAL MINESWEEPERS



KUM KOK 1961, *Korean Navy Official*

5 Ex-U.S. MSC Type

KO HUNG MSC 523 (ex-*MSC* 285) **KUM KOK MSC 525** (ex-*MSC* 286)
KUM SAN MSC 522 (ex-*MSC* 284)

Displacement:	320 tons *standard* (370 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 28 × 9 (*max.*) feet
Guns:	2—20 mm. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,200=14 kts.
Complement:	43

Notes

Newly built coastal minesweepers, MSC, of the American "Bluebird" class specially built by the U.S.A. for foreign countries under the Military Assistance Program. *Ko Hung* and *Kum San* were transferred from the U.S. Navy to the Korean Navy in 1959, followed by *Kum Kok*, transferred at Long Beach, California, on 10 Nov. 1959. MSC 295 and MSC 296 are building in U.S. for transfer to Korean under MAP. The minesweeping boat MSB 2 was transferred from the U.S. Navy to the Korean Navy on 1 Dec. 1961.



KOCHANG 1959, *Korean Navy, Official*

7 Ex-U.S. YMS Type

KUM HWA MSC(O) 519 (ex-U.S.S. *Curlew*, ex-*MSC(O)* 8, ex-*YMS* 218)
KIM PO MSC (O) 520 (ex-U.S.S. *Kite*, ex-*MSC(O)* 22, ex-*AMS* 22, ex-*YMS* 365)
KOCHANG MSC(O) 521 (ex-U.S.S. *Mockingbird*, ex-*MSC(O)* 27, ex-*YMS* 419)
KYONG CHU MSC(O) 502 **KANG KYONG MSC(O) 510**
KWANG CHE MSC(O) 503 **KIM CHON MSC(O) 513**

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136 (*o.a.*) × 24½ × 8 (*max*). feet
Guns:	1—40 mm., 50 cal., 2—20 mm. AA.
Machinery:	Diesels. B.H.P.: 1,000=15 kts.
Complement:	50

Notes

Former United States auxiliary motor minesweepers of wooden construction, built in 1941-42. All ex-YMS type. *Kum Hwa, Kim Po* and *Kochang* were transferred from the U.S. Navy in 1956. *Kang Jin*, MSC(O) 501, *Kang Nung*, MSCO(O) 507, and *Ko Ryong*, MSC(O) 515 were decommissioned on 15 July 1959, 30 July 1959, and 30 May 1959 respectively.

SUPPLY SHIPS

AKL 35
KIMHAE AKL 902 **WAEKWAN AKL 905**
KUN SAN AKL 908 (ex-U.S.S. *Sharps, AKL* 10) **MA SAN AKL 909** (ex-U.S.S. *AKL* 35)
MOCK PO AKL 907 (ex-U.S.C.G.C. *Trillium, WAK* 170)

Displacement:	520 tons
Dimensions:	179 (*o.a.*) × 32 × 10 (*max.*) feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Machinery:	Diesel. 2 shafts. S.H.P.: 1,000=13 kts.
Complement:	43 (for AKL 902) and 49 (for AKL 907, 908 and 909)

Notes

AKL 35 was transferred from the United States on 6 Sep. 1956. *Kun San* was transferred from the U.S.N. and commissioned in the Korean Navy at Seattle, Wash. on 3 Apr. 1956, *Ma San* at Seattle on 9 Sep. 1956, and *Mock Po* was transferred at San Francisco in 1956. Ex-U.S. Army FS craft.

OILERS

CHUN-JI (ex-*Birk*) AO 2 **PUJON** (ex-*Hassel*) AO 3

Displacement:	1,400 tons *standard* (4,160 tons *full load*)
Measurement:	2,257 and 2,256 tons *gross*, respectively
Dimensions:	275 (*pp.*) × 44½ × 18¼ feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Complement:	73

Notes

Former Norwegian tankers. Both built by A/S Berken Mek. Verks Bergen, Norway, in 1951. Taken over by South Korean Navy at Rotterdam, Sep. and July 1953, respectively.

KU RYONG YO 1, ex-YO 106 (ex-U.S.S. *YO* 118)

Displacement:	428 tons *standard* (1,126 tons *full load*)
Dimensions:	174 (*o.a.*) × 33 × 13 (*max.*) feet
Guns:	2—50 cal.
Machinery:	Union diesel. 1 shaft. S.N.P.: 500=7 kts.
Complement:	36

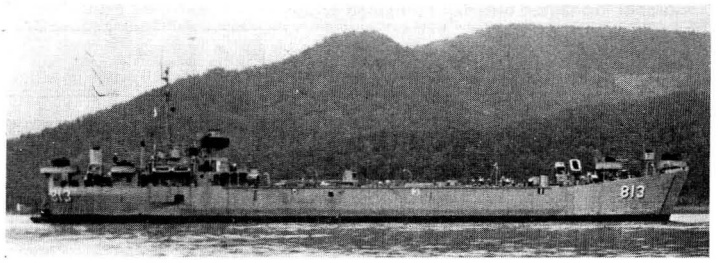
HWA CHON YO 5 (ex-*Paek Yeon , AO* 5, ex-U.S.S. *Derrick, YO* 59)

Displacement	893 tons *standard* (2,700 tons *full load*)
Dimensions:	236 (*o.a.*) × 38 × 15 (*max.*) feet
Guns:	3—20 mm. AA.
Machinery:	Fairbanks-Morse diesel. 1 shaft. B.H.P.: 1,150=10·5 kts.
Complement:	46

Notes

Ex-United States self-propelled fuel oil barges. *YO* 118 was transferred on 3 Dec. 1946 and YO 59 was transferred on loan to Korea on 14 Oct. 1955.

LANDING SHIPS



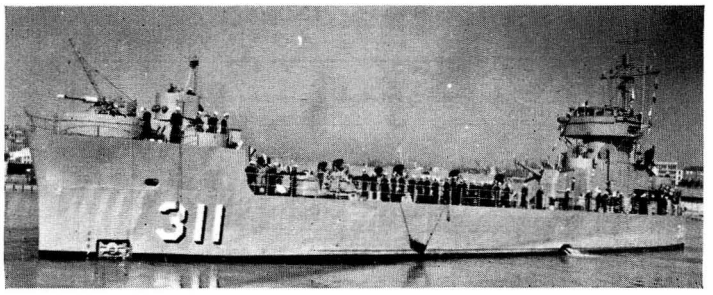
SU YONG — 1962, *Korean Navy, Official*

Ex-U.S. LST Type

UN BONG LST 807 (ex-U.S.S. *LST 1010*)
DUK BONG LST 808 (ex-*LST 227*)
BI BONG LST 809 (ex-U.S.S. *LST 218*)
KAE BONG LST 810 (ex-U.S.S. *Berkshire County LST 288*)
WEE BONG LST 812 (ex-U.S.S. *Johnson County LST 849*)
SU YONG LST 813 (ex-U.S.S. *Kane County LST 853*)
BUK HAN LST 815 (ex-U.S.S. *Lynn County LSR 900*)
HWA SAN LST 816 (ex- U.S.S. *Pender County LST 1080*)

Displacement:	1,653 tons *standard*, 2,366 tons *beaching* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	7—40 mm. AA., 6—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700 = 11 kts.
Cargo capacity:	2,100 tons
Complement:	113

Notes
Former United States Landing Ships. *Duk Bong* and *Un Bong* were transferred on 22 Mar. 1955 at S. Diego. *Kaebong* was transferred on 5 Mar. 1956 at Seattle, she mounts 10—40 mm. guns and 8—20 mm. guns. *Buk Han*, *Su Yong* and *Wee Bong* were transferred on 2 Dec. 1958, 22 Dec. 1958 and 13 Jan. 1959, respectively, at Seattle, and *Hwa San* was transferred on 30 Oct. 1958 at Long Beach.
There are also the *Jung Su*, APL 8116, ex-U.S.S. *APL 59*, ex-U.S.S. *LST 53*, non self-propelled barracks ship transferred in 1955.



SI HUNG — 1961, *Korean Navy, Official*

Ex-U.S. LSMR Type

SI HUNG LSMR 311 (ex-U.S.S. *St. Joseph River, LSMR 527*)

Displacement:	1,102 tons *standard* (1,280 tons *full load*)
Dimensions:	203½ (*o.a.*) × 34½ × 8½ (*max.*) feet
Guns:	1—5 inch, 2—40 mm. AA., 2—20 mm. AA., 8—5 inch rocket projectors
Machinery:	Diesels. 2 shafts. B.H.P.: 2,800 = 13 kts.
Complement:	142

Notes
Transferred to Republic of Korea Navy at San Diego, California, on 15 Sep. 1960. *Si Hung* means "The Beginning of Prosperity."

Ex-U.S. LSM Type

BIYOUP LSM 607 (ex-U.S.S. *LSM 96*)
DOK DO LSM 603 (ex-U.S.S. *LSM 419*)
KA DUK LSM 605 (ex-U.S.S. *LSM 462*)
KI RIN LSM 610 (ex-U.S.S. *LSM 19*)
KUMOON LSM 606 (ex-U.S.S. *LSM 30*)
ULRYUNG LSM 613 (ex-U.S.S. *LSM 17*)
NEUNG RA LSM 611 (ex-U.S.S. *LSM 84*)
PUNG DO LSM (F) 608 (ex- U.S.S. *LSM 54*)
TAE CHO LSM 601 (ex-U.S.S. *LSM 546*)
WOLMI LSM 609 (ex-U.S.S. *LSM 57*)
YEU DO LSM 602 (ex-U.S.S. *LSM 268*)
SIN-MI LSM 612 (ex-U.S.S. *LSM 316*)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8½ (*max.*) feet
Guns:	1—40 mm. AA., 4—20 mm. AA.
Machinery:	Diesels, direct drive. 2 shafts. B.H.P.: 2,880 = 12·5 kts.
Complement:	62

Notes
On loan from the United States. LSM 19, 30 54, 57, 84 and 96 were transferred to the Korean Navy at Seattle in 1956. LSM 19, 84 transferred on 3 July 1956, LSM 17 on 18 Oct. 1956, LSM 316 on 18 Nov. 1956. *Pungdo, LSM(F) 608* has been converted into a Mine Force Flagship.

Ex-U.S. LSSL Type

PO SONG MAN LSSL 109 (ex-*LSSL 54*)
YONG IL MAN LSSL 110 (ex-*LSSL 86*)

Displacement:	230 tons *standard* (387 tons *full load*)
Dimensions:	159 × 23⅔ × 5⅔ feet
Guns:	2—40 mm. AA., 4—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.:= 14 kts.
Complement:	71

Notes
Former United States Support Landing Ships Large, LSSL, ex-LCS(L). LSSL 107 (ex-*LSSL 77*) and LSSL 108 (ex-*LSSL 91*), employed as gunboats, were decommissioned on 15 Nov. 1960. *Chung Jin*, LSIL 105 (ex-U.S.S. LSIL 1056) is being scrapped.

Tug Notes
The U.S. auxiliary ocean tugs *Pinola*, *ATA 206* and *Keosanqua*, *ATA 198* are reported to have been transferred to the Korean Navy on 1 Feb. 1962 and renamed *Do Bong*, ATA 3, and *Yong Mun*, ATA 2, respectively.

KOREA (NORTH)

Personnel

Estimated at 8,250 total (750 officers and 7,500 men in Sep. 1962).

Ships

2 "T" class fleet minesweepers received from U.S.S.R., 540 tons, 200 (*o.a.*) × 23 × 8 feet; 2 "Artillerist" class submarine chasers; 2 new construction submarine chasers, 125 feet; 10 submarine chasers, 100 feet; 3 "MO—1" class submarine chasers transferred by U.S.S.R. in 1954; 21 "P—4" class motor torpedo boats, aluminium hulls; 20 minesweeping boats, 20 tons, 50 feet.

LAOS

It is reported that there are four river squadrons of small craft.

LEBANON

PATROL BOATS

TARABLOUS

Displacement:	105 tons *standard*
Dimensions:	124¾ × 18 × 5¾ feet
Guns:	2—40 mm.
Machinery:	2 Mercedes-Benz diesels. 2 shafts. B.H.P.: 2,700 = 27 kts.
Radius:	1,500 miles
Complement:	19 (3 officers, 16 men)

Notes
Built by Ch. Navals de l'Estérel. Laid down in June 1958. Launched in June 1959. Completed in 1959.



BIBLOS — 1960, *Captain Aldo Fraccaroli*

3 "Biblos" Class

BIBLOS **SIDON** **TIR**

Displacement:	28 tons *standard*
Dimensions:	66 × 13½ × 4 feet
Guns:	1—20 mm. AA., 2 M.G.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 530 = 18·5 kts.

Notes
Built by Ch. Navals de l'Estérel. Launched in 1954-55. A very small naval service has been formed, of which the above four French built ML type craft and a utility landing craft are the nucleus.

LANDING CRAFT

Ex-LCU 1474

Displacement:	180 tons *standard* (360 tons *full load*)
Dimensions:	115 × 34 × 6 feet
Guns:	2—20 mm. AA.
Machinery:	3 diesels. 3 shafts. B.H.P.: 675 = 10 kts.

Notes
Former U.S. utility landing craft built in 1957 and transferred in Nov. 1958.

LIBERIA

Coast Guard

A very small naval service has been formed with about 200 men.

Mercantile Marine

Lloyd s Register of Shipping: 903 vessels of 10,929, 551 tons *gross*.

PATROL BOATS (Coastguard Cutters)



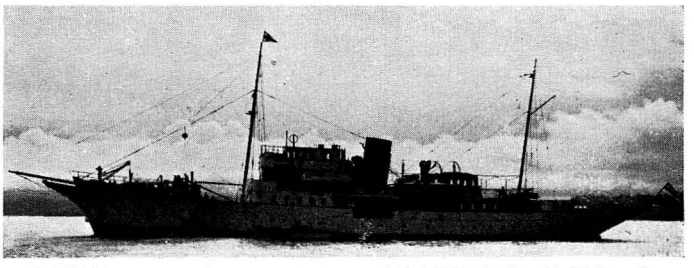
ML 4002 — 1957, *Giorgio Arra*

ML 4001 **ML 4002**

Displacement:	11·5 tons
Dimensions:	40¼ (*o.a.*) × 11⅓ × 3½ feet
Guns:	2 M.G.
Machinery:	2 General Motors diesels, Model 6-71. 2 shafts. B.H.P.: 380 = 23 (*max.*) kts. (18 kts. sustained)

Notes
Two newly constructed 40 ft. coastguard cutters built at the United States Coast Guard Yard, Curtis Bay, Maryland, presented by the U.S.A., and transferred during 1957. There is also a landing craft reported to be in service.

PRESIDENTIAL YACHT



LIBERIAN — *Added 1959, Godfrey H. Walker, Esq.*

LIBERIAN (ex-Virginia)

Measurement:	742 tons (*Thames*), 692·27 tons *gross*, 341·6 tons reg. *net*
Dimensions:	173 (*w.l.*), 209 (*o.a.*) × 29¾ × 13¼ feet.

Notes
Motor yacht of 742 tons (yacht measurement) built in 1930 by William Beardmore & Co. Ltd., Dalmuir. Purchased by Liberia for use as the Presidential yacht in 1957.
(Her previous owners were the Trustees of the Estate of the late Viscount Camrose.)

LIBYA

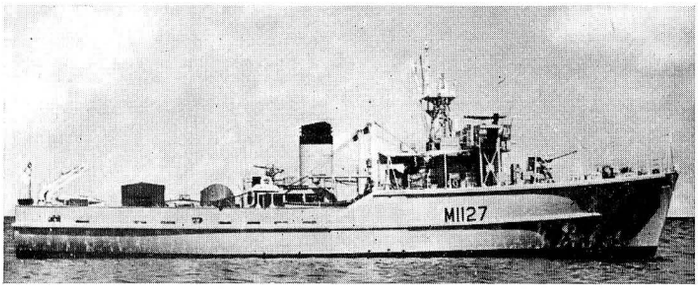
Officially stated a navy is to be formed, including a coastguard force.

MALAYA

Captain of the Navy:
Captain W. J. Dovers, D.S.C., R.A.N.

Military Adviser in London:
Colonel Mohamed bin Haji Mohamed Noor.

COASTAL MINESWEEPER



MAHAMIRU — 1961, *Royal Malayan Navy, Official*

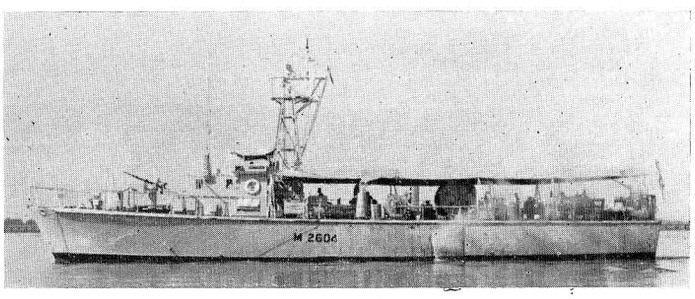
1 Ex-British " Ton " Class

MAHAMIRU (ex-H.M.S. *Darlaston*)

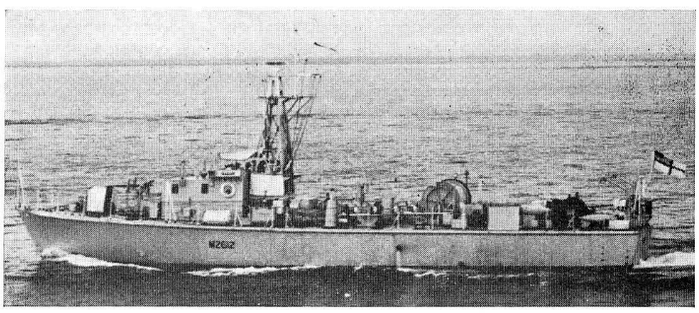
Displacement:	360 tons *standard* (425 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28¾ × 8¼ feet
Guns:	1—40 mm. Bofors AA. forward; 2—20 mm. Oerlikon AA. aft.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,250=15 kts. (*max.*)
Complement:	27 in peacetime (39 war)

Notes
Coastal minesweeper of the " Ton " class. Transferred from the Royal Navy to the Royal Malayan Navy in 1960 under the Malayan Defence Agreement.

INSHORE MINESWEEPERS



SRI PERIS (sweeping gear aft, gun forward) — 1962, *Royal Malayan Navy, Official*



TEMASEK (with sweeping gear) — 1961, *Royal Malayan Navy, Official*



SRI JOHOR (guns instead of sweeping gear) — 1961, *Royal Malayan Navy, Official*

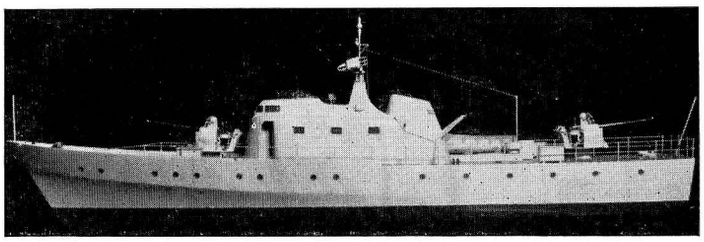
4 Ex-British " Ham " Class

LANGKA SUKA (ex-H.M.S. *Bedham*) — **SRI PERLIS** (ex-H.M.S. *Asheldham*)
SRI JOHOR (ex-H.M.S. *Altham*) — **TEMASEK** (ex-H.M.S. *Brantingham*)

Displacement:	120 tons standard (159 tons *full load*)
Dimensions:	100 (*pp.*), 106⅝ (*o.a.*) × 21½ × 5½ feet
Guns:	1—20 mm. Oerlikon AA. forward (see *Gunnery Notes*)
Machinery:	2 Paxman diesels. B.H.P.: 550=14 kts. (9 kts. sweeping)
Oil fuel:	15 tons
Complement:	15 in peacetime (22 war)

General Notes
Inshore minesweepers of the " Ham " class, M 2601 Series. Transferred from Great Britain and renamed in 1958 (*Langka Suka* and *Temasek*) and 1959 (*Sri Johor* and *Sri Perlis*).
Gunnery Notes
Sri Johor and *Sri Perlis* were temporarily armed with three 20 mm. Oerlikon anti-aircraft guns in place of the acoustic and magnetic minesweeping gear, but are now fitted with minesweeping gear.
Photograph Notes
Another photograph of *Sri Perlis* appears in the 1959-60 and 1960-61 editions.

FAST PATROL CRAFT



SRI KEDAH — 1962, *courtesy Vosper Ltd., Portsmouth, Builders*

6 New Construction

SRI KEDAH — **SRI PAHANG** — **SRI SELANGOR**
SRI KELANTAN — **SRI PERAK** — **SRI TRENGGANU**

Displacement:	100 tons (*approx.*) official figure
Dimensions:	103 (*o.a.*) × 19½ × 5½ feet
Guns:	2—40 mm., 70 cal. Bofors AA.
Machinery	Bristol Siddeley Maybach diesel engines. B.H.P.: 1,775=27 kts.
Complement:	23 (3 officers, 20 ratings)

Notes
The contract between Vosper Ltd., Portsmouth, and the Malayan Government for the supply of these six fast patrol craft for the Royal Malayan Navy was announced on 14 Sep. 1961. The value of the contract is about £1,000,000. The first boat, *Sri Kedah*, was launched on 4 June 1962. Of prefabricated steel construction, they are fitted with Vosper roll damping fins and are equipped with Decca true motion radar. These boats will replace the seaward defence craft of the SDML type (see below) and will take their names.

SEAWARD PATROL CRAFT



SRI PERAK — 1960, *Royal Malayan Navy, Officia*

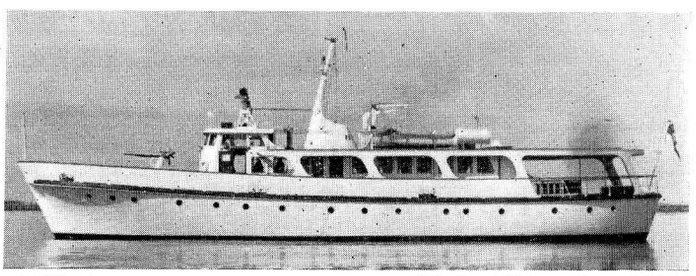
5 Ex-British SDML Type

SRI KELANTAN (ex-*SDML* 3508) — **SRI PERAK** (ex-*SDML* 3507)
SRI NEGRI SEMBILAN (ex-*SDML* 3506) — **SRI TRENGGANU** (ex-*SDML* 3502)
SRI PAHANG (ex-*SDML* 3505)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅔ × 5½ feet
Guns:	2—20 mm. Oerlikon AA.
Machinery:	2 Gardner diesels. 2 shafts. B.H.P.: 260 to 320=11 to 12 kts.
Complement:	11

Notes
Former British harbour defence motor launches (HDML) later known as seaward defence motor launches (SDML). These vessels constitute the 200th Seaward Patrol Craft Squadron operating out of Singapore. *Sri Kedah* (ex-*SDML* 3501) was paid off in 1959 and scrapped. *Sri Selangor* (ex-SDML 3509) was paid off in 1961. *Sri Kelantan*, *Sri Pahang*, *Sri Perak* and *Sri Trengganu* will also be paid off in turn as new fast patrol craft of the same names (see above) are completed to replace them.

DESPATCH AND SURVEY VESSEL



MUTIARA — 1962, *Royal Malayan Navy, Official*

1 New Construction

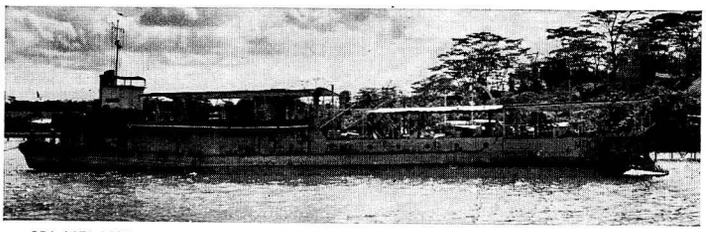
MUTIARA

Displacement:	95 tons
Dimensions:	98 (*o.a.*) × 19 × 5½ feet
Guns:	Single 20 mm. Oerlikon AA.
Machinery:	2 Thornycroft diesels. B.H.P.: 200=12 kts.
Complement:	16 (2 officers and 14 ratings)

Notes
A general purpose vessel intended for despatch, surveying and patrol duties. Designed and built at the Singapore shipyard of John I. Thornycroft & Co., Ltd. First vessel specially constructed for the Royal Malayan Navy, the earlier ships having been acquired from the Royal Navy. Launched on 17 Jan. 1961. Named on 20 May 1961 and commissioned as K.D. *Mutiara*, K.D. (Kapal Diraja)=Royal Ship. Mutiara means Pearl.

MALAYA—*continued*

LANDING CRAFT



SRI MELAKA — 1960, *Royal Malayan Navy. Official*

1 Ex-British LCT Type

SRI MELAKA (ex-H.M.M.S. *Malaya*, ex-*MRC* 1401, ex-*LCT(E)* 341)

Displacement:	350 tons *standard* (586 tons *full load*)
Dimensions:	187¼ × 38¾ × 3½ (*forward*), 4½ (*aft*) feet
Guns:	Removed
Machinery:	Dismantled
Complement:	30

General Notes

Landing craft of the LCT(4) type. Originally loaned by Great Britain to the Royal Malayan Navy, and given her present name in Oct. 1958 after the Royal Malayan Navy was transferred to the Government of the Federation of Malaya. Now employed as a forward maintenance repair craft based at Woodlands, Singapore.

Recent Disposals

The landing craft *Sri Perlis* (ex-H.M.S. *Pelandok*, ex-*LCG(L)* 450), and the trawler type controlled minelayer *Sri Johor* (ex-H.M.M.S. *Penyu*, ex-H.M.S. *Dabchick*, ex-*Thorney*) were paid off in 1959 and sold.

MALGACHE (Madagascar)

The *République Malgache* became an independent state on 26 June 1960.

PATROL VESSEL

1 Ex-French YMS Type

TANAMASOANDRO (ex-*Marjolaine*, ex-*D* 337, ex-*YMS* 69)

Displacement:	280 tons *standard* (325 tons *full load*)
Dimensions:	134½ × 24¼ × 12 feet
Guns:	1—3 inch, d.p., 2—20 mm. AA., 2 M.G.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,000=15 kts.
Oil fuel:	36 tons
Radius:	3,000 miles at 10 kts.

Notes

Former French patrol vessel, ex-coastal minesweeper of the ex-U.S. YMS type, transferred from the French Navy to the new Malgache Navy at Diego Suarez on 18 Feb. 1961 and name changed from *Marjolaine* to *Tanamasoandro* (which means Sunray). Used for surveying off Madagascar. Pennant number P 656.

MALI

The *République du Mali* became independent on 22 Sep. 1960

Mali (Sudan, French West Africa) is reported to be planning a navy, and the first vessels will probably be acquired from France. A patrol boat of wooden construction, 95 feet long, with a speed of 20 knots, was reported to be in use in late 1960.

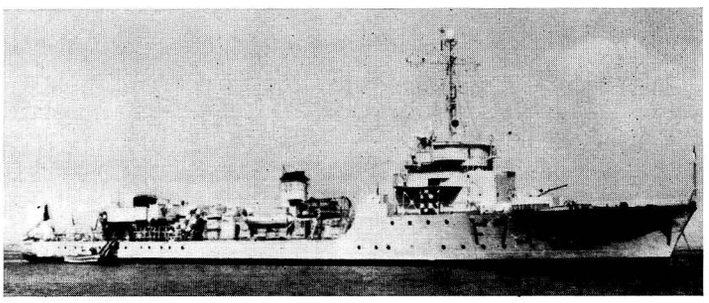
NATO

North Atlantic Treaty Organisation (NATO) Naval Forces are:—

BELGIUM, CANADA, DENMARK, FRANCE, GERMAN FEDERAL REPUBLIC, GREECE, ICELAND, ITALY, NETHERLANDS, NORWAY, PORTUGAL, TURKEY, UNITED KINGDOM, UNITED STATES.

MOROCCO

CORVETTE (*Aviso*)



EL LAHIQ (ex-*Chamois*) — 1962, *French Navy, Official*

1 Ex-French Early " Chamois " Class

EL LAHIQ (ex-*Chamois*, ex-*Annamite*)

Displacement:	647 tons *standard* (920 tons *full load*)
Dimensions:	257 × 28½ × 10½ feet
Guns:	2—4·1 inch, 1—40 mm. AA., 6—20 mm. AA.
A/S weapons:	4 D.C.T., 2 D.C. racks
Machinery:	Sulzer diesels. 2 shafts. B.H.P.: 4,000=20 kts.
Oil fuel:	100 tons
Radius:	10,000 miles at 9 kts, 5,200 miles at 15 kts.
Compliments:	100 (8 officers, 92 men)

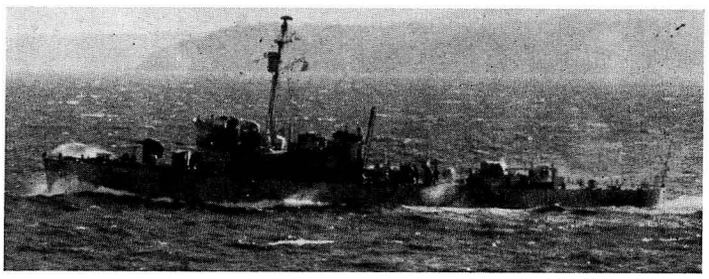
Notes

Former French *aviso* of the early "Chamois" class. Built as *Annamite* by Lorient Dockyard. Laid down in Apr. 1938, launched on 17 June 1939, and completed in Feb. 1940. Renamed *Chamois* in 1953. Transferred from the French Navy to the Moroccan Navy on 7 Nov.1961 and renamed *El Lahiq*.

Class Notes

Sister ship of *Dustur* (ex-*Chevreuil*) in the Tunisian Navy.

PATROL VESSEL (*Escorteur Cotier*)



AGADIR — 1962, *courtesy Ing. Augusto Nani*

1 Ex-French PC Type

AGADIR (ex-*Goumier*, ex-U.S.S. *PC* 545)

Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 6½ feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm. AA.
A/S weapons:	2 D.C.T. (24 D.C.)
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 3,600=20 kts.
Fuel:	60 tons
Radius:	6,000 miles at 10 kts., 2,300 miles at 18 kts.
Complement:	63

Notes

Former American steel submarine chaser of the PC type built in 1942. Transferred from the United States to France on 17 Oct. 1944. Transferred fron the French Navy to the Moroccan Navy on 15 June 1960 and renamed *Agadir*.

SEAWARD PATROL CRAFT (*Vedette de Port*)

1 Ex-French VC Type

ES SABIQ (ex-P762, *VC* 12)

Displacement:	75 tons *standard* (82 tons *full load*)
Dimensions:	104½ × 15½ × 5½ feet
Guns:	2—20 mm. AA.
Machinery:	2 Mercedes-Benz diesels. 2 shafts. B.H.P.: 2,700=28 kts.
Radius:	1,500 miles at 15 kts.
Complement:	17

Notes

Former French seaward defence motor launch of the VC type. Built by Chantiers Navals d'Esterel. Launched on 13 Aug. 1957. Completed in 1958. Transferred from the French Navy to the Moroccan Navy on 15 Nov. 1960 and renamed *Es Sabiq*.

PATROL LAUNCHES

Notes

It is reported that twelve small revenue cutters are under construction, four 82 feet in length with a speed of 25 knots, and eight 42⅔ feet in length.

MEXICO

Administration

Secretary of the Navy:
Admiral C.G. Manuel Zermeno Araico.

Under-Secretary of the Navy:
Engineer Vice-Admiral Oliverio F. Oroxco Vela.

Chief of Operations:
Vice-Admiral C.G. Rigoberto Otal Briseno.

Commander-in-Chief of the Fleet:
Vice-Admiral C.G. Luis M. Bravo Carrera.

Chief of the Naval Staff:
Rear-Admiral C.G. Antonio J. Aznar Zetina.

Director of Services:
Rear-Admiral C. G. Enrique Carrera Alomia.

Deputy Chief of Naval Staff:
Rear-Admiral Guillermo Hernandez Sagarra.

Personnel

1962: Total 6,200 (600 officers and 5,600 men, including marines.

Mercantile Marine

Lloyd's Register of Shipping:
77 vessels of 177,131 tons *gross*

FRIGATES

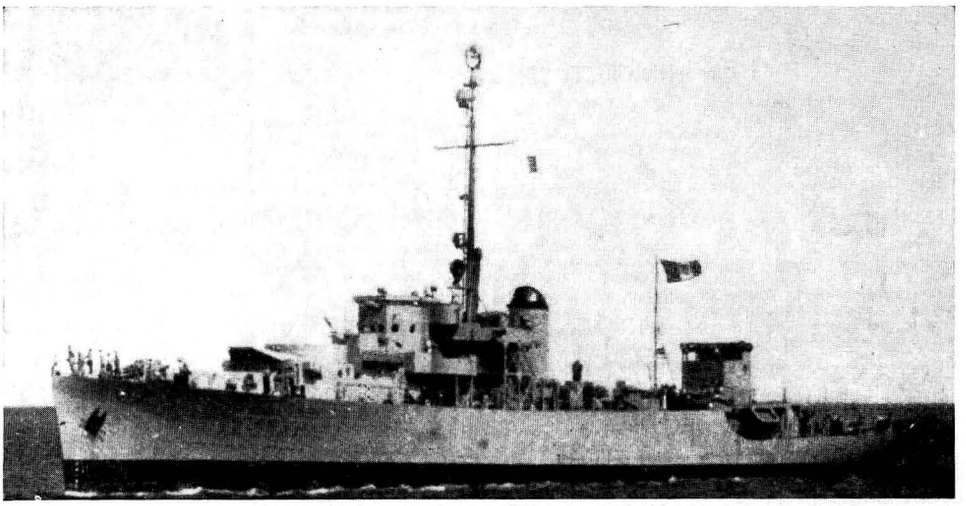
4 Ex-U.S. "Tacoma" Type
Rated as *Fragatas*

CALIFORNIA (ex-U.S.S. *Hutchinson*, *PF* 45)
PAPALOAPAN (ex-U.S.S. *Gladwyne*, *PF* 62)
TEHUANTEPEC (ex-U.S.S. *Bangor*, *PF* 16)
USUMACINTA (ex-U.S.S. *Annapolis PF* 15)

Displacement:	1,430 tons *standard* (2,415 tons *full load*)
Dimensions:	285½ (*w.l.*), 304 (*o.a.*) × 37⅔ × 13⅔ feet
Guns:	3—3 inch, 50 cal., 2—40 mm. AA. (single), 2—20 mm. AA. (single)
A/S weapons:	2 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. Sea speed: 18 kts.
Boilers:	2, of 3-drum type
Oil fuel:	290 tons *normal*, 650 tons *max.*
Radius:	9,500 miles at 12 kts.; 7,000 miles at 14 kts.
Complement:	150 to 180

Name	*Builders*
California	Consolidated Steel, Los Angeles, Calif
Papaloapan	Globe S.B. Co., Superior, Wis.
Tehuantepec	American S.B Co., Lorain, Ohio
Usumacinta	American S.B. Co., Lorain ,Ohio

Name	*Laid down*	*Launched*	*Completed*
California	28 July 1943	27 Aug. 1943	3 Feb. 1944
Papaloapan	14 Oct. 1943	7 Jan. 1944	18 Aug. 1944
Tehuantepec	20 May 1943	6 Nov. 1943	22 Aug. 1944
Usumacinta	20 May 1942	16 Oct. 1943	4 July 1944



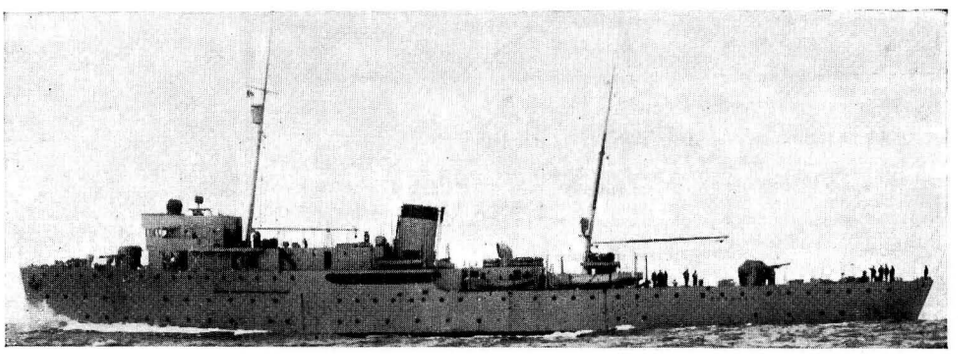
USUMACINTA *Official*

Notes
Former United States patrol frigates, PF of the "Tacoma" class. Purchased in 1947. All stationed on the Pacific Coast.

1 "Durango" Type
Rated as *Transporte de Guerra*

DURANGO

Pennant No.:	128
Builders	Union Naval de Levante Valencia
Launched:	28 June 1935
Completed:	1936
Displacement:	1,600 tons *standard* (2,000 tons *full load*)
Dimensions:	282 (*pp.*), 303 (*o.a.*) × 40 × 10 feet
Guns:	2—4 inch, 2—57 mm., 2—25 mm. AA. (twin mounts), 2—13 mm. AA.
A/S weapons:	2 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 6,500=20 kts. *designed* (19 kts. sea speed)
Boilers:	2 Yarrow
Oil fuel:	400 tons
Radius:	3,000 miles at 15 kts.
Complement:	141



DURANGO *Official*

General Notes
Designed primarily as an armed transport (*transporte de guerra*) with accommodation for 20 officers, 450 men and 80 horses, this vessel carries a lighter armament than the three *canoñeros* of the "Guanajuato" class (see below) which besides their troop carrying and transport capacity are equivalent to frigates in many ways.

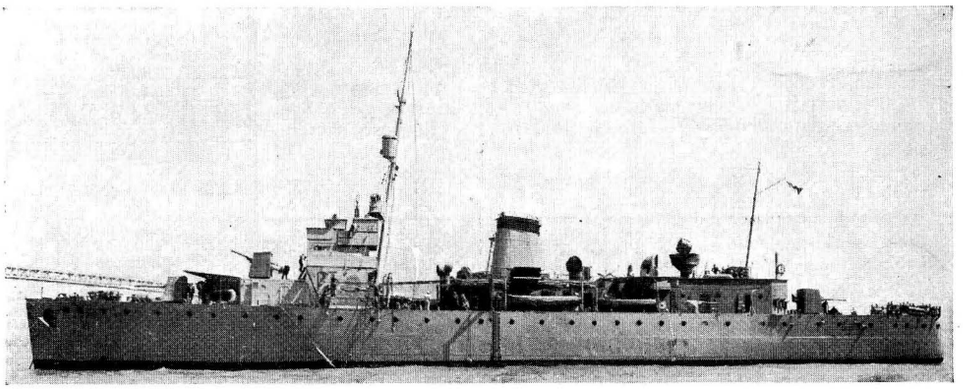
Class Notes
A sister ship of the *Durango*, the *Zacatecas*, was taken over by the Spanish Navy on completion as a frigate or gunboat and renamed *Calvo Sotelo*, but she was removed from the effective list at the end of 1957.

3 "Guanajuato" Class
Rated as *Canoneros*

GUANAJUATO **POTOSI** **QUERETARO**

Displacement:	1,300 tons *standard* (1,950 tons *full load*)
Dimensions:	264 (*o.a.*) × 37⅔ × 10 feet
Guns:	3—4 inch, 2—40 mm. AA. (single), 2—20 mm. AA. (single)
A/S weapons:	2 D.C.T.
Machinery:	*Guanajuato*. Parsons geared turbines. 2 shafts. S.H.P.: 5,000=19 kts.
	Potosi, Queretaro: 2 Enterprise DMR—38 diesels. 2 shafts, B.H.P. 5,000=14 kts. cruising speed. (see *Notes*)
Boilers:	Yarrow (in *Guanajuato* and *Potosi*, see *Notes*)
Oil fuel:	140 tons
Complement:	About 140 (plus troops, see *Notes*)

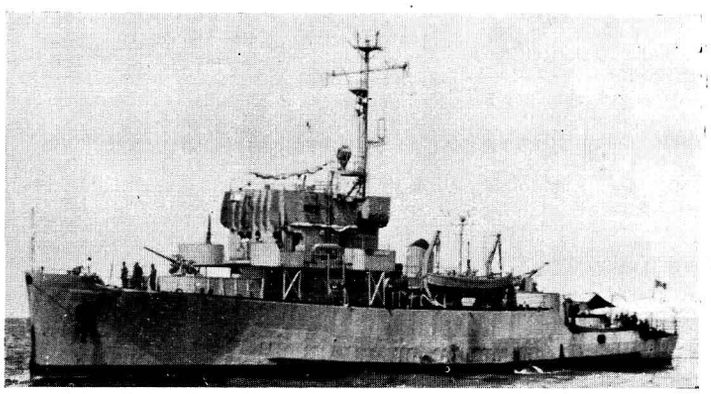
Name	*Builders*	*Launched*
Guanajuata	Sociedad Español de Construccion Naval, Ferrol	29 May 1934
Potosi	S.E. de C.N., Matagorda, Cadiz	24 Aug. 1934
Queretaro	S.E. de C.N., Ferrol	29 June 1934



QUERETARO *Official*

Notes
Classed as *canoñeros*. They can carry 230 troops and 20 horses in addition to the normal ship's complement. In 1958 the steam turbines in *Queretaro*, Pennant No. 43, were replaced with diesel engines, each of 2,500 B.H.P., and in 1962 the same alterations were made in *Potosi*, Pennant No. 44.

ESCORT VESSELS



DAVID PORTER 1962, *Official*

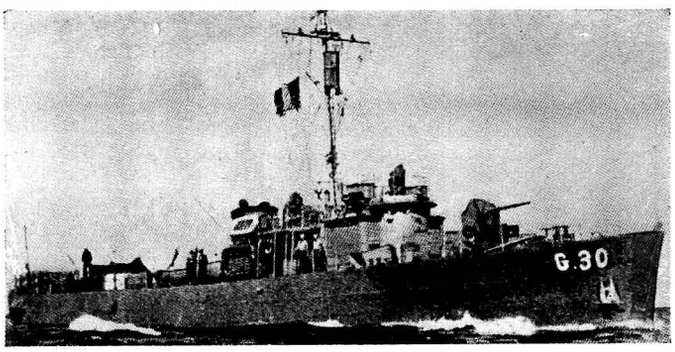
5 Ex-U.S. PCE Type (Rated as *Corbetas*)

BLAS GODINEZ (ex-*PCE* 871) **TOMÁS MARÍN** (ex-*PCE* 875)
DAVID PORTER (ex-*PCE* 847) **VIRGILIO URIBE** (ex-*PCE* 868)
PEDRO SAINZ DE BARANDA (ex-*PCE* 844)

Displacement:	600 tons *standard* (903 tons *full load*)
Dimensions:	180 (*w.l.*), 184½ (*o.a.*) × 33 × 9½ feet
Guns:	1—3 inch, 50 cal., 6—40 mm. AA. (3 twin), 4—20 mm. AA. (single)
A/S weapons:	2 D.C.T.
Machinery:	G.M. diesel. 2 shafts. B.H.P.: 1,800=20 kts. designed. (15 kts. sea speed)
Complement:	80

Notes
Former American escort patrol vessels of the PCE type. All completed in 1943-44. Purchased from the United States Navy in 1947.

PATROL VESSELS



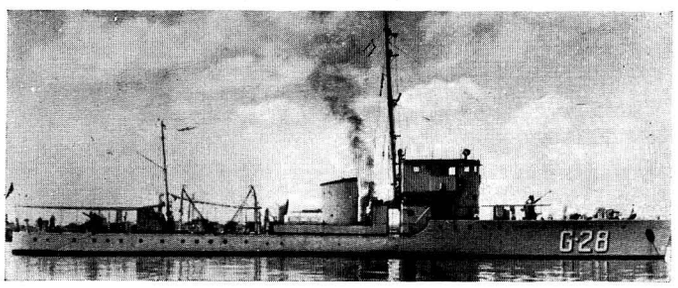
GC 30 1953, *Official*

9 Ex-U.S. PC Type (Rated as *Guardacostas*)

GC 30 (ex-*PC* 820) **GC 33** (ex-*PC* 813) **GC 36** (ex-*PC* 1224)
GC 31 (ex-*PC* 608) **GC 34** (ex-*PC* 794) **GC 37** (ex-*PC* 819)
GC 32 (ex-*PC* 614) **GC 35** (ex-*PC* 824) **GC 38** (ex-*PC* 1210)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 7½ (11 *max.*) feet
Guns:	1—3 inch, 1—40 mm. AA., 5—20 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	2 diesels. 2 shafts. B.H.P.: 2,880=19 kts. (*max.*)
Oil fuel:	60 tons
Radius:	5,000 miles at 10 kts.
Complement:	65

Notes
Former American submarine chasers of the " 173 ft." steel *PC* type. Launched in 1942-44. Completed in U.S. in 1942-45. Purchased as surplus in the United States in 1952. Cruising speed 10 kts. Armament varies. Some not mounted.



G 28 1954, *Official*

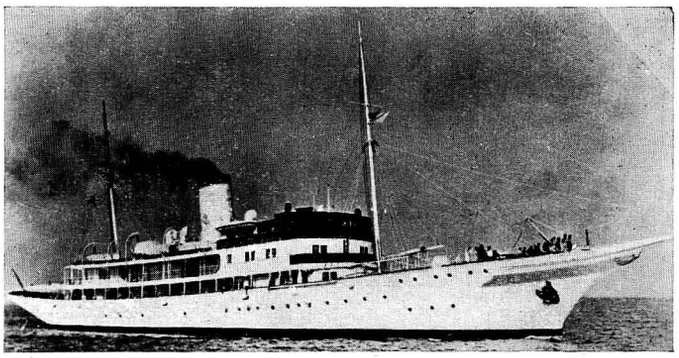
1 " G 20 " Class

G 28

Displacement:	130 tons *standard* (184 tons *full load*)
Dimensions:	147½ (*pp.*), 153 (*w.l.*), 156 (*o.a.*) × 16½ × 5¼ (*mean*) feet
Guns:	2—20 mm. AA.
A/S weapons:	2 D.C.T.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,000=12 kts. (see *Notes*)
Complement:	26

Notes
Built in 1934-35. Though of British design, this vessel, sole survivor of the " G 20 " class, was built in Spain, by Compania Euskalduna de Construccion, Bilbao, with German engines and bullet-proof hull plating and was originally armed with French guns. It was officially stated in 1960 that the former MAN diesels of 3,000 B.H.P.=24 kts. had been replaced by 2 G.M. 268 model diesels each of 500 B H.P. G 21, G 23, G 26 and G 27 were withdrawn from service in 1954, G 22 and G 25 were withdrawn from service in 1956.

TRAINING SHIP (*Buque Escuela*)



ZARAGOZA 1953, *Official*

1 Yacht Type

ZARAGOZA (ex-*Orizaba*, ex-*Southern Cross*, ex-*Rover*)

Displacement:	1,851 tons
Thames measurement:	2,113 tons
Dimensions:	266½ (*w.l.*), 320½ (*o.a.*) × 40¾ × 14½ feet
Guns:	2—13 mm. AA.
Machinery:	Triple expansion. I.H.P.: 2,600=11 kts.
Boilers:	3 cylindrical
Oil fuel:	380 tons
Complement:	150

Notes
Built in Glasgow, Scotland. Launched in 1930. Acquired from Sweden in 1939, then being the yacht of Dr. Axel Wenner-Gren, the well-known financier. Ex-Presidential yacht.

PATROL BOATS

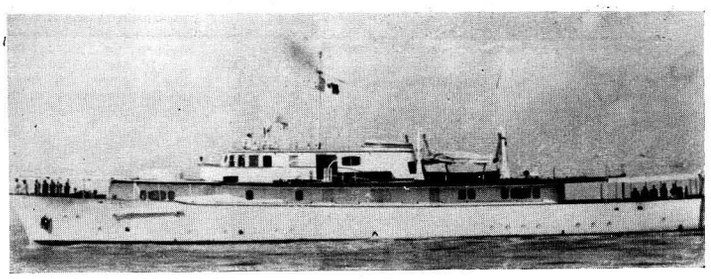
2 " Azueta " Class

AZUETA **VILLAPANDO**

Displacement:	80 tons *standard*
Dimensions:	85 × 16 × 7 feet
Guns:	2—13·2 mm. AA. (twin)
Machinery:	Superior motors. B.H.P.: 600=12 kts.

Notes
Small patrol craft of all steel construction built at Astilleros de Tampico, Tamps. *Azueta* was launched in Aug. 1959 and entered service in Nov. when the second boat was reported to be nearing completion. (The patrol boat *Halcon* is no longer in the Navy List, having been transferred to fishery protection service in 1959.)
Two new 37-ton patrol boats have been added to the Gulf of Mexico patrol. (Dec. 1961)

PRESIDENTIAL YACHT



SOTAVENTO 1962, *Official*

SOTAVENTO

Displacement:	300 tons *standard* (400 tons *full load*)
Dimensions:	165¼ × 27½ × 9⅝ feet
Machinery:	Diesel engines. B.H.P.: 1,800=17 kts.

Notes
Built by Higgins, New Orleans. Launched in 1947. Handsome, symmetrical and low-lying, streamlined, truncated funnel, air conditioned, equipped with radar.

TUGS

NEREIDA

Displacement:	85 tons *standard*
Dimensions:	80 (*pp*) × 16 × 7 feet
Machinery:	Double expansion. I.H.P.: 190=10 kts.
Boilers:	1 Scotch

Notes
Former patrol boat adapted as a fleet tug and also as a fire fighting vessel.

FRANCISCO NICOLAU

Displacement:	85 tons
Dimensions:	68 × 16 × 7 feet
Machinery:	Diesel motor. B.H.P.: 165=7·5 kts.

Notes
Built in Mexico in 1946. Employed as a tug and lighthouse tender. There are also reported to be three other small-steel-hulled tugs varying from 60 to 90 feet in length.

TRANSPORT

ZACATECAS

Displacement:	780 tons *standard*
Dimensions:	157¾ × 27½ × 9 feet
Guns:	1—40 mm. AA, 2—20 mm. AA. (single)
Machinery:	OTO Deutz. H.P.: 500=10 kts.

Notes
Built at Ulua Shipyard, Veracruz. Hull of welded steel construction.
N.P. There are reported to be six tank landing craft of the U.S. type with a length of 119 feet.

ROYAL NETHERLANDS NAVY

Administration

Minister of the Navy (Minister of Defence):
Ir. S. H. Visser.

Secretary of State for the Navy:
Capt. P. J. S. de Jong.

Chief of Naval Staff and Commander-in-Chief:
Vice-Admiral L. Brouwer.

Naval Attaché in London:
Captain H. A. van Oorde, R.Neth. Navy.

New Construction Programme

4 frigates of British " Leander " class design, powered with steam and gas turbines;
2 conventional submarines of the triple-hulled ocean-going type;
1 fleet replenishment tanker and supply ship;
2 large landing craft for New Guinea;
2 small landing craft for amphibious training of the Royal Marine Corps;
1 torpedo tender.

Ships

Colour of warships is greyish blue, *except* submarines, which are dark green in home waters. Ships of the Royal Netherlands Navy are referred to with the prefix " Hr. Ms."

Personnel

1 January 1962: 22,462 officers and ratings (including 2,481 officers and ratings of the Naval Air Arm, 3,920 officers and men of the Royal Marine Corps and 271 officers and women of the W.R.Neth.N.S.).

Navy Estimates

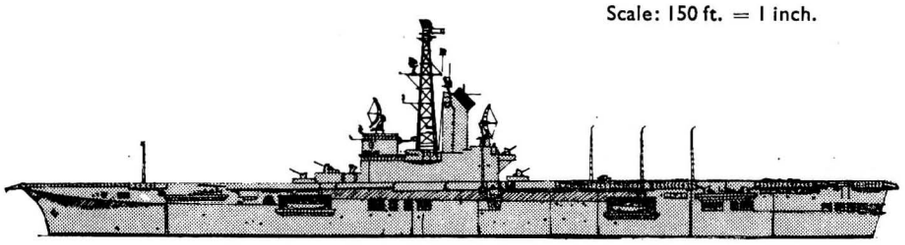
1955: Fl. 321,110,000	1959: Fl. 360,609,000
1956: Fl. 342,312,000	1960: Fl. 380,779,000
1957: Fl. 352,770,000	1961: Fl. 430,880,000
1958: Fl. 363,793,000	1962: Fl. 503,960,000

Mercantile Marine

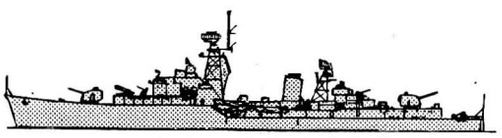
Lloyd's Register of Shipping:
1,894 vessels of 4,909,687 tons *gross*

Silhouettes

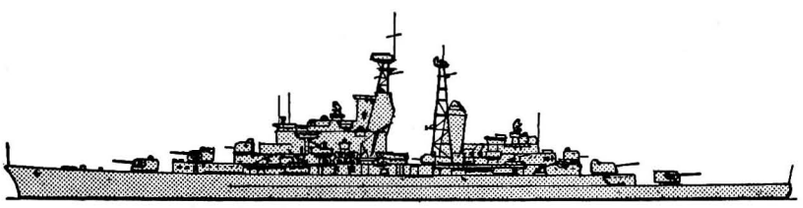
Scale: 150 ft. = 1 inch.



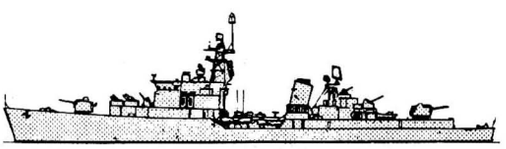
KAREL DOORMAN



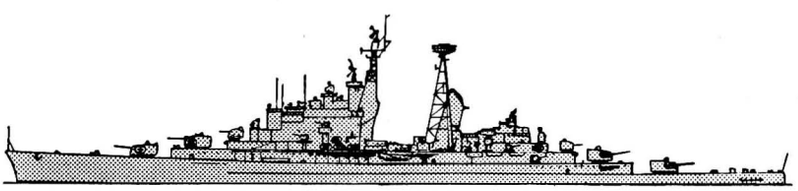
FRIESLAND *Class*



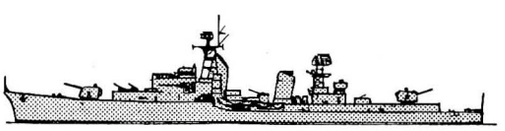
DE RUYTER



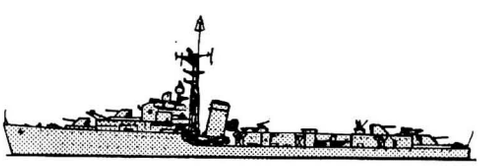
GRONINGEN



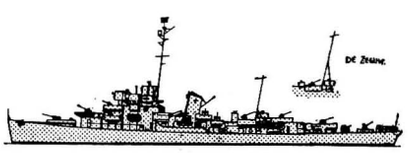
DE ZEVEN PROVINCIEN (less pronounced curve to bow)



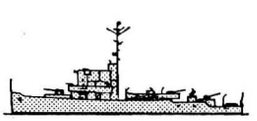
HOLLAND *Class*



PIET HEIN *Class*



DE BITTER *Class* (DE ZEEUW inset)



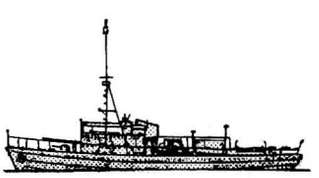
FRET *Class*



MARNIX

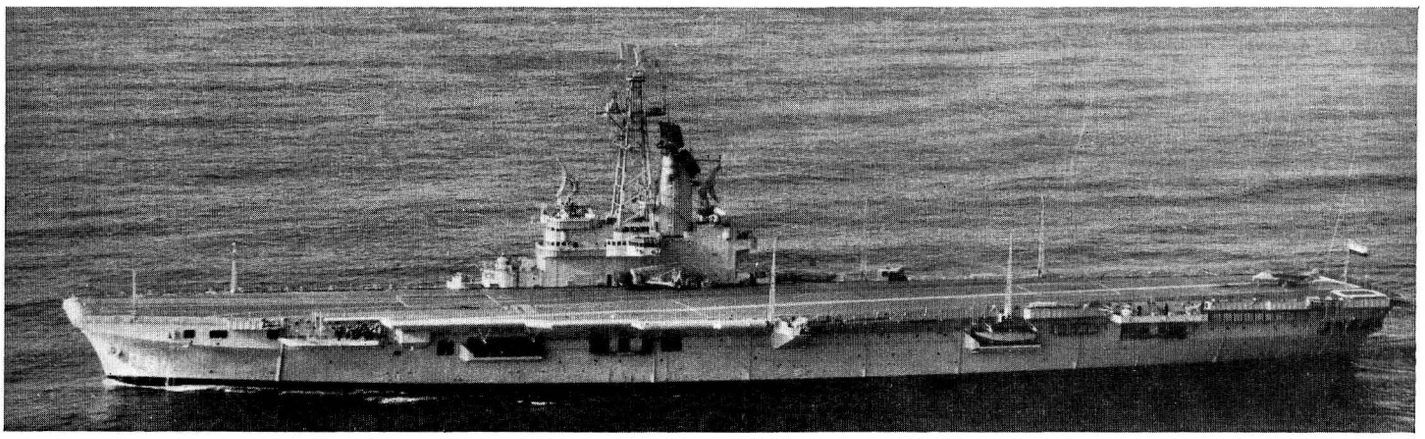


WILLEM VAN DER ZAAN

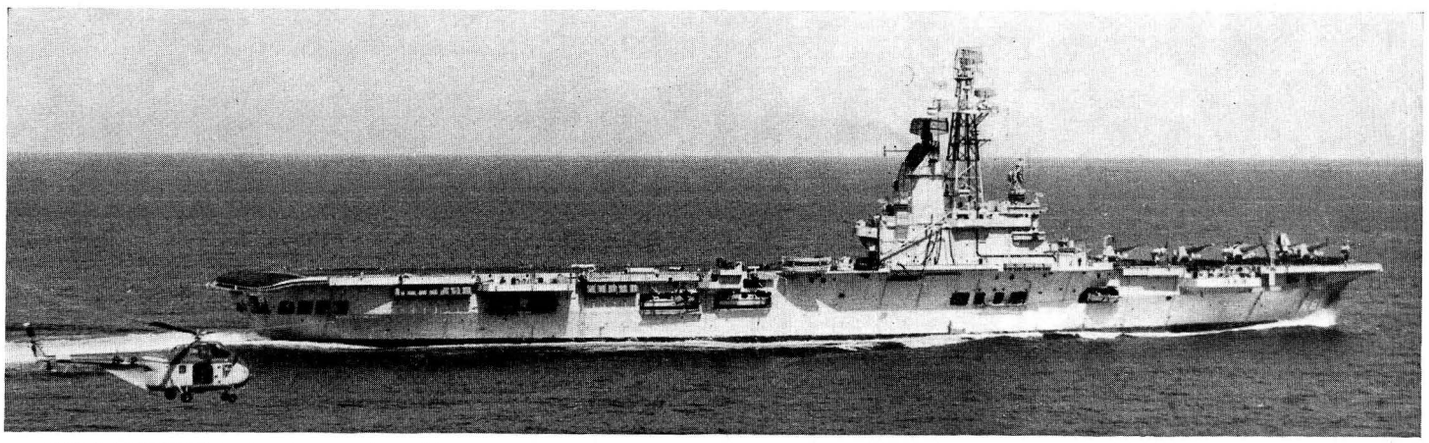


SNELLIUS *Class*

AIRCRAFT CARRIER (*Vliegkampschip*)



KAREL DOORMAN (port broadside aerial view) 1961, *Royal Netherlands Navy, Official*



KAREL DOORMAN (starboard quarter view) with helicopter 1961, *Royal Netherlands Navy, Official*

1 Ex-British "Colossus" Class

KAREL DOORMAN (ex-H.M.S. *Venerable*)

Deck Letter:	D
Pennant No.:	R 81
Builders:	Cammell Laird & Co. Ltd., Birkenhead
Laid down:	3 Dec. 1942
Launched:	30 Dec. 1943
Completed:	17 Jan. 1945
Displacement:	15,892 tons *standard* (19,896 tons *full load*) officially revised figures
Dimensions:	Length: 630 (*pp.*), 693½ (*o.a.*) feet Beam: 80 feet. Width overall: 121⅓ feet. (as reconstructed) Draught: 21½ (*mean*), 24½ (*max.*) feet
Guns:	12—40 mm. AA. Bofors (latest model), 4—3 pdr. saluting
Aircraft:	(Capacity 21) Official complement: 6 S2F's, 4 HSS 1N, 6 Sea Hawks, 2 helicopters
Machinery	Parsons geared turbines. 2 shafts. S.H.P.: 42,000=25 kts. (designed), 24·25 kts. sea speed
Boilers:	4, of 3-drum type, 400 lb. working pressure, 700 degrees maximum superheat
Oil fuel:	3,200 tons
Radius:	12,000 miles at 14 kts.
Complement:	1,509

General Notes

Purchased from Great Britain on 1 Apr. 1948. Commissioned in the Royal Netherlands Navy on 28 May 1948. Insulated for tropical service and partly air-conditioned. Underwent modernisation in 1955-58, including a heavier modified angled flight deck and steam catapult, mirror sight landing system and new anti-aircraft battery of ten 40 mm. guns, at the Wilton-Fijenoord Shipyard, at a cost of 25 million guilders instead of the 11 million guilders originally appropriated. Conversion completed in July 1958.

Hangar Notes

Dimensions of hangar are: Length, 445 feet: width, 52 feet; clear depth, 17½ feet.

Engineering Notes

Engines and boilers are arranged *en echelon*, the two propelling-machinery spaces having two boilers and one set of turbines in each space, on the unit system.

Appearance Notes

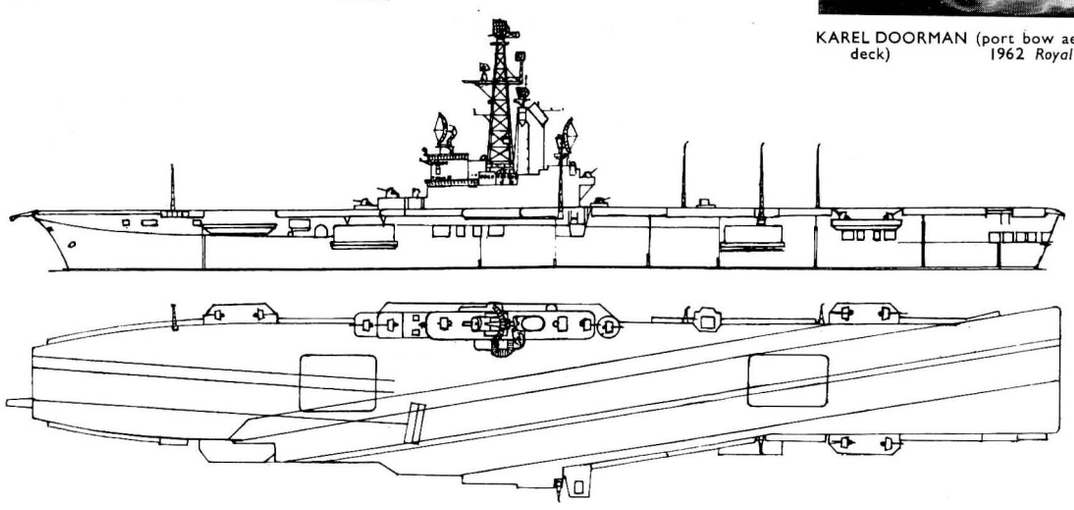
With a new island and bridge and a lattice tripod radar mast, and a tall raked funnel, she differs considerably from her former appearance and from her original sister ships in the British, French, Argentine and Brazilian navies.

Notes to Drawing

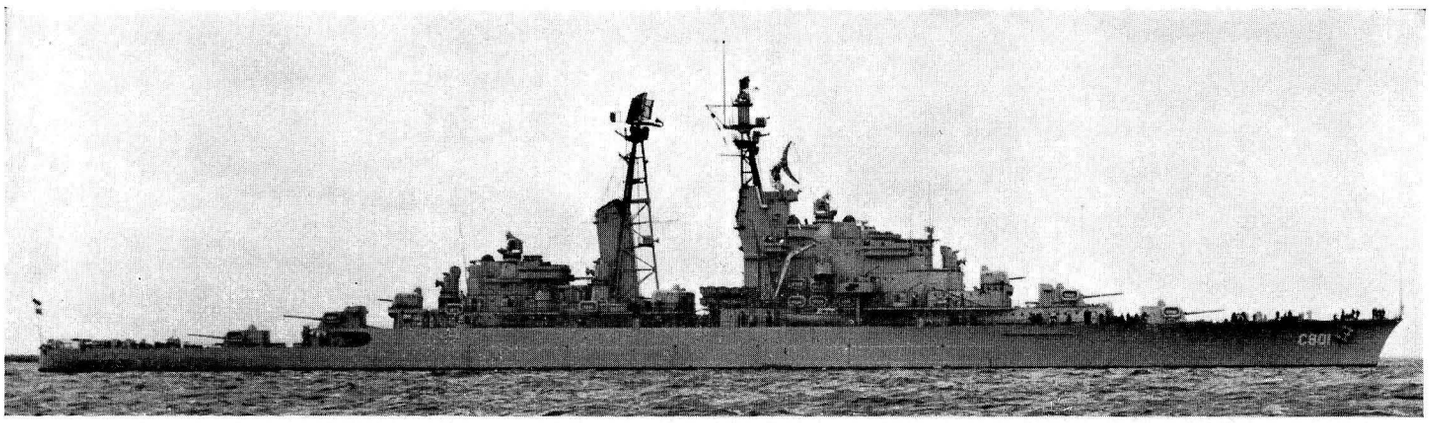
Port elevation and plan. Drawn in 1958. Scale: 128 feet =1 inch.



KAREL DOORMAN (port bow aerial view showing angled deck) 1962 *Royal Netherlands Navy, Official*

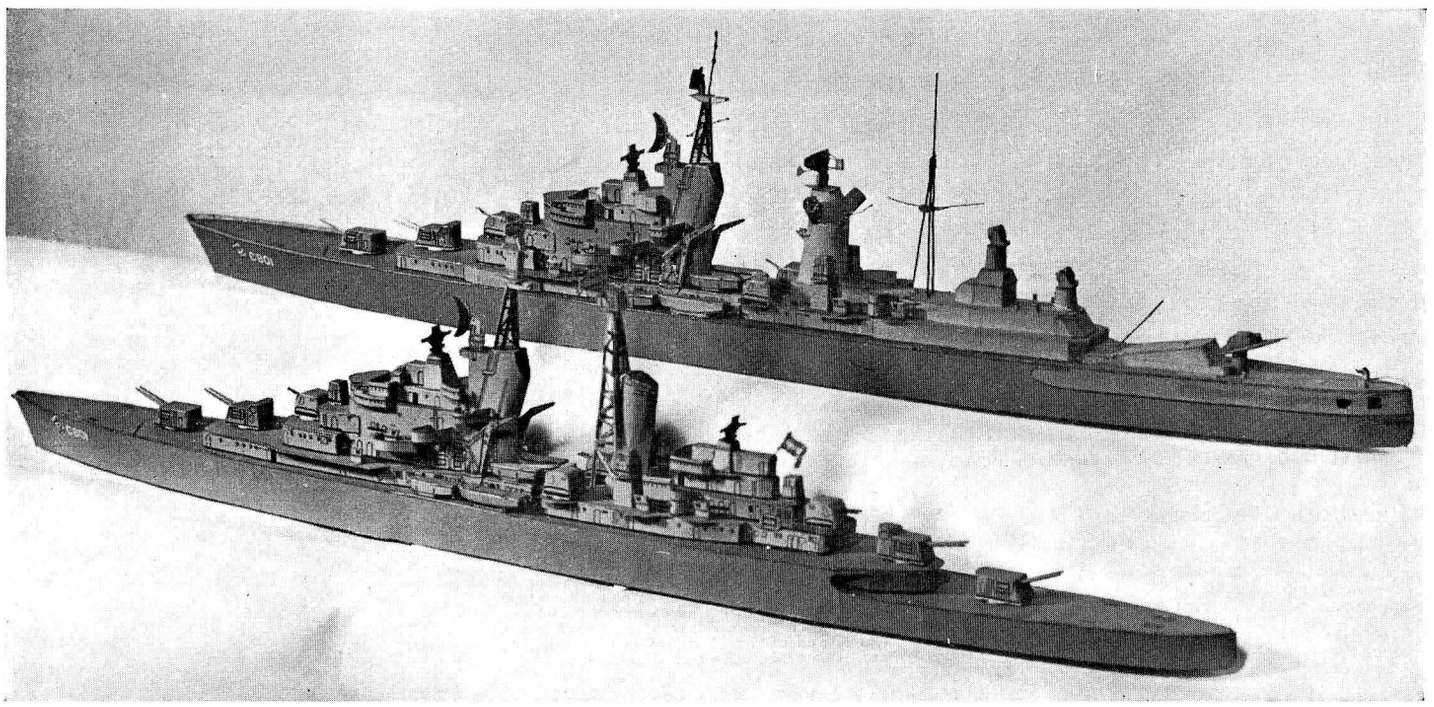


CRUISERS (*Kruisers*)



DE RUYTER (starboard broadside view)

1961, *Royal Netherlands Navy, Official*



DE RUYTER (models before and after projected conversion to guided missile cruiser)

1961, *Royal Netherlands Navy, Official*

2 " De Ruyter " Class

DE RUYTER (ex-*De Zeven Provincien*)

DE ZEVEN PROVINCIEN (ex-*De Ruyter*, ex-*Eendracht* ex-*Kijkduin*)

Name:	*De Ruyter*	*De Zeven Provincien*
Pennant No.:	C 801	C 802
Builders:	Wilton-Fijenoord, Schiedam	Rotterdam Drydock Co.
Laid down:	5 Sep. 1939	19 May 1939
Launched:	24 Dec. 1944	22 Aug. 1950
Completed.	18 Nov. 1953	17 Dec. 1953

Displacement:	9,529 tons *standard* (11,850 tons *full load*) officially revised figures
Dimensions:	Length: 590½ (*pp.*), 614½ and 609 (*o.a.*) feet respectively. Beam: 56⅔ feet. Draught: 18½ (*mean*), 22 (*max.*) feet
Guns:	8—6 inch in twin turrets (Bofors 1942 model), 8—57 mm. AA. (in pairs), 8—40 mm. AA.
Armour:	3"-2" side; 4", 2¾"-2" turrets.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 85,000=32 kts.
Boilers:	4, of 3-drum type
Complement:	957-973

General Notes

Machinery by K. M. de Schelde. Construction resumed in 1946. *De Ruyter* was launched by the Germans as the *De Zeven Provincien*, but as the latter name was given to the former *De Ruyter* when she was launched on 22 Aug. 1950, the war-launched ship took her sister's name in exchange. Tripod mast, originally abaft after funnel, is now before after funnel.

Gunnery Notes

Main armament has 60 degrees elevation. All guns are fully automatic and radar controlled. The 6 inch guns are anti-aircraft with a rate of fire of 15 rounds per minute.

Guided Missile Notes

It is officially stated: " Of the two cruisers of this class only *De Zeven Provincien* will be rearmed with ' Terrier ' guided missiles. Rearmament of *de Ruyter* could only be carried out after work on *De Zeven Provincien* has finished. It is considered that the remaining life of the ship after conversion would then be too short to justify the heavy expenditure involved in rearmament."

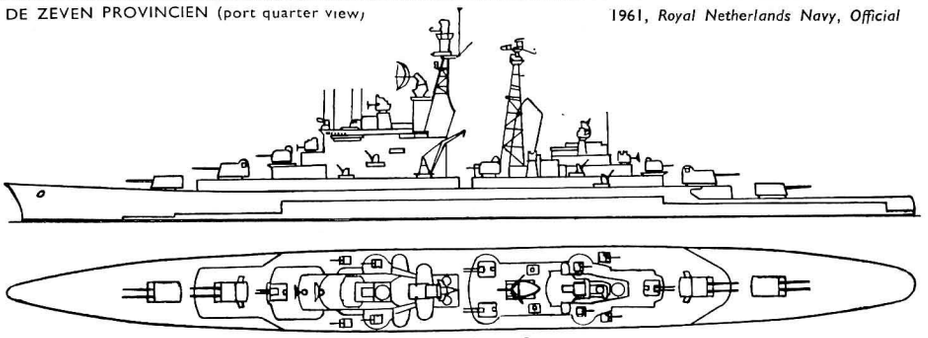
Photograph Notes

Port bow view of *De Zeven Provincien* and aerial stern view of *De Ruyter* in the 1957-58 edition. Starboard broadside view of *De Zeven Provincien* and port bow aerial view of *De Ruyter* in the 1957-58 to 1960-61 editions



DE ZEVEN PROVINCIEN (port quarter view)

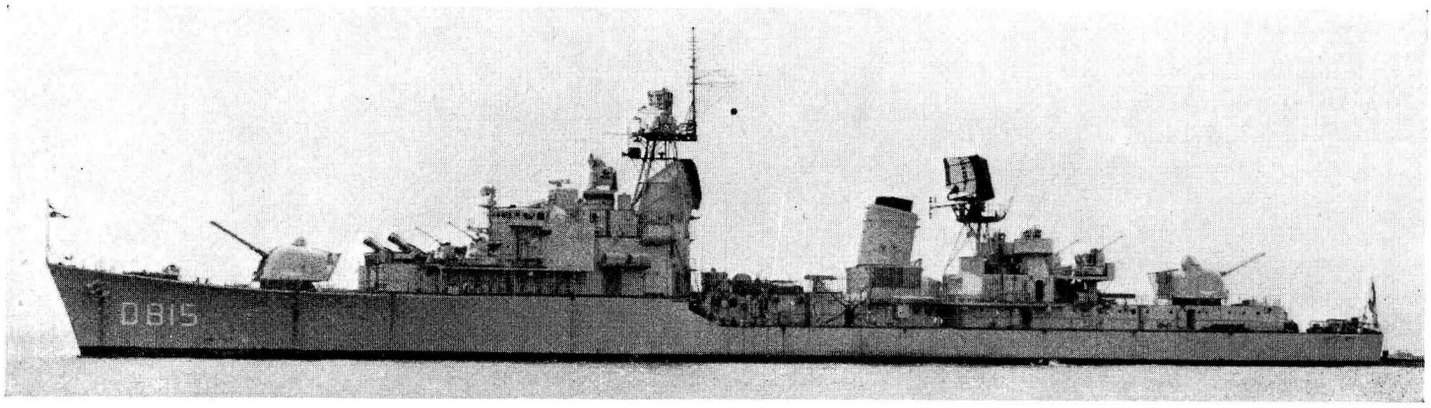
1961, *Royal Netherlands Navy, Official*



Note to Drawing

Represents *De Ruyter* Port elevation and plan *De Zeven Provincien* has straight bow which accounts for the variation n overall lengths Scale 128 feet=1 inch

ANTI-SUBMARINE DESTROYERS (DDE)



OVERIJESSEL port broadside view, 1961, *courtesy Godfrey H. Walker, Esq.*

8 "Friesland" Class (47 B Type)

AMSTERDAM, DRENTHE, FRIESLAND, GRONINGEN, LIMBURG, OVERIJSSEL, ROTTERDAM, UTRECHT

Displacement:	2,497 tons *standard* (3,070 tons *full load*)
Dimensions:	370 (*pp.*), 380½ (*o.a.*) × 38½ × 13 feet
Guns:	4—4·7 inch, 6—40 mm. AA., 1 flare rocket launcher
Tubes:	8—21 inch (single-mounts, four on each side) (see *Torpedo Notes*)
A/S weapons:	2 four-barrelled rocket throwers (depth charge mortars)
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=36 kts.
Boilers:	4 Babcock & Wilcox
Complement:	280

General Notes

These ships have some side armour as well as deck protection, like light cruisers. They have "Limbo" type anti-submarine rocket throwers. Named after provinces of Northern and Southern Holland, and the two biggest towns.

Gunnery Notes

The 4·7 inch guns are fully automatic with a rate of fire of 50 rounds per minute. All the guns are radar controlled.

Torpedo Notes

Unlike most orthodox destroyers this class was built without torpedo tubes. *Utrecht* was equipped with tubes in 1960, *Overijssel* in 1961, and the others were to have been similarly armed, but owing to further developments in anti-submarine warfare it has been officially decided not to equip the remaining destroyers of this class with torpedo tubes, and tubes already fitted have been removed.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 812	*Friesland*	Nederlandse Dok en Scheepsbouw Mij., Amsterdam	17 Dec. 1951	21 Feb. 1953	22 Mar. 1956
D 813	*Groningen*	Nederlandse Dok en Scheepsbouw Mij , Amsterdam	21 Feb 1952	9 Jan. 1954	12 Sept 1956
D 814	*Limburg*	Koninklijke Maatschappij De Schelde, Flushing	28 Nov. 1953	5 Sep. 1955	31 Oct. 1956
D 815	*Overijssel*	Dok-en-Werfmaatschappij Wilton-Fijenoord, Schiedam	15 Oct. 1953	8 Aug. 1955	4 Oct. 1957
D 816	*Drenthe*	Nederlandse Dok en Scheepsbouw Mij., Amsterdam	9 Jan. 1954	26 Mar. 1955	1 Aug. 1957
D 817	*Utrecht*	Koninklijke Maatschappij De Schelde, Flushing	15 Feb. 1954	2 June 1956	1 Oct. 1957
D 818	*Rotterdam*	Rotterdamse Droogdok Mij., Rotterdam	7 Jan. 1954	26 Jan. 1956	28 Feb. 1957
D 819	*Amsterdam*	Nederlandse Dok en Scheepsbouw Mij., Amsterdam	26 Mar. 1955	25 Aug. 1956	10 Apr. 1958

4 "Holland" Class (47A Type)

GELDERLAND, HOLLAND, NOORD BRABANT, ZEELAND

Displacement:	2,215 tons *standard* (2,765 tons *full load*)
Dimensions:	360½ (*pp.*), 371 (*o.a.*) × 37½ × 12½ feet
Guns:	4—4·7 inch, 1—40 mm. Bofors AA.
A/S weapons:	2 four-barrelled rocket throwers (depth charge mortars)
Machinery:	Geared turbines. 2 shafts. S.H.P.: 45,000=32 kts.
Boilers:	4 Babcock & Wilcox
Complement:	280

General Notes

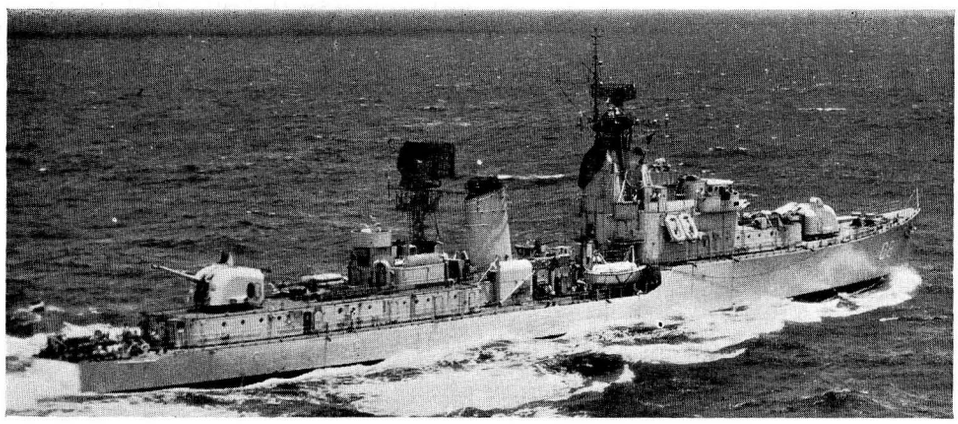
These ships are equipped with the turbines originally built before the Second World War for the destroyers of the "Gerard Callenburgh" class then under construction. In May 1940 these turbines fell into German hands, but in 1945 they were recovered, as the destroyers which the Germans ordered to be built by Netherlands shipbuilding yards and which would have been fitted with these turbines were never built.

Gunnery Notes

The 4·7 inch guns are fully automatic and radar controlled.

Photograph Notes

Port bow view of *Noord Brabant* and starboard quarter view of *Holland* in the 1957-58 edition. Large port bow view of *Zeeland* in the 1958-59 to 1960-61 editions.



GELDERLAND (starboard quarter view) 1961, *Royal Netherlands Navy, Official*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 808	*Holland*	Rotterdamse Droogdok Mij., Rotterdam	21 Apr. 1950	11 Apr. 1953	31 Dec. 1954
D 809	*Zeeland*	Koninkijke Maatschappij De Schelde, Flushing	12 Jan. 1951	27 June 1953	1 Mar. 1955
D 810	*Noord Brabant*	Koninkijke Maatschappj De Schelde, Flushing	1 Mar. 1951	28 Nov. 1953	1 June 1955
D 811	*Gelderland*	Dak-en-Werfmaatschappij Wilton-Fijenoord, Scheidam	10 Mar. 1951	19 Sep. 1953	17 Aug. 1955

FAST FRIGATES

4 New Construction

VAN SPEYCK

Notes

Four new frigates are to be built as replacements of the three frigates of the "Piet Hein" class and of the original *Van Speyck* which was scrapped in 1955, it is officially stated. The ships will be based on the design of the British "Leander" class.

To enable a start to be made quickly on the building it has been resolved to equip these ships with equipment which is available at short notice and not to wait for equipment which is still in the development stage.

Where possible equipment of Netherlands manufacture will be installed, and this will result in a number of changes in the ships' superstructure. No definite decision has yet been reached about the kind of gun armament.

2 "Piet Hein" Class Converted from Destroyers

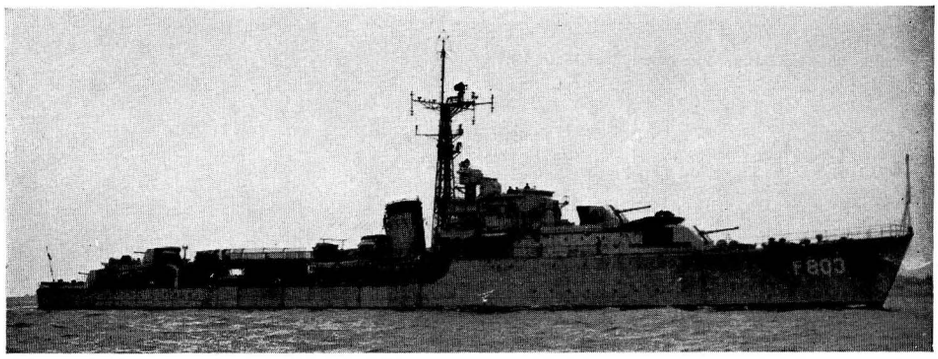
EVERTSEN (ex-*Scourge*) **KORTENAER** (ex-*Scorpion*, ex-*Sentinel*)

	Evertsen	*Kortenaer*
Name:		
Pennant No.:	F 803	F 804
Builders:	Cammell Laird & Co. Ltd., Birkenhead	
Laid down:	26 June 1941	19 June 1941
Launched.	8 Dec. 1942	26 Aug. 1942
Completed.	14 July 1943	11 May 1943

Displacement	1,986 tons *standard* (2,703 tons *ful load*)
Dimensions	362¾ × 35⅔ × 12¾ feet
Guns:	4—4·7 inch, 6—40 mm. AA.
Tubes:	8—21 inch (quadrupled)
A/S weapons.	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000 = 31·25 kts. sea speed
Boilers:	2, of 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	233

General Notes

Originally "S" class destroyers purchased from Great Britain in 1945-46. Converted into fast frigates at Rijkswerf Willemsoord in 1957-58 with a helicopter platform aft between the funnel and "X" gun position



EVERTSEN (after conversion 1958, *Royal Netherlands Navy, Official*

Recent Disposals

Sister ship *Piet Hein* was scrapped on 16 Oct. 1961. *Kortenaer* and *Evertsen* will be scrapped at the end of 1962 and 1963, respectively.

FRIGATES *(Fregatten)*

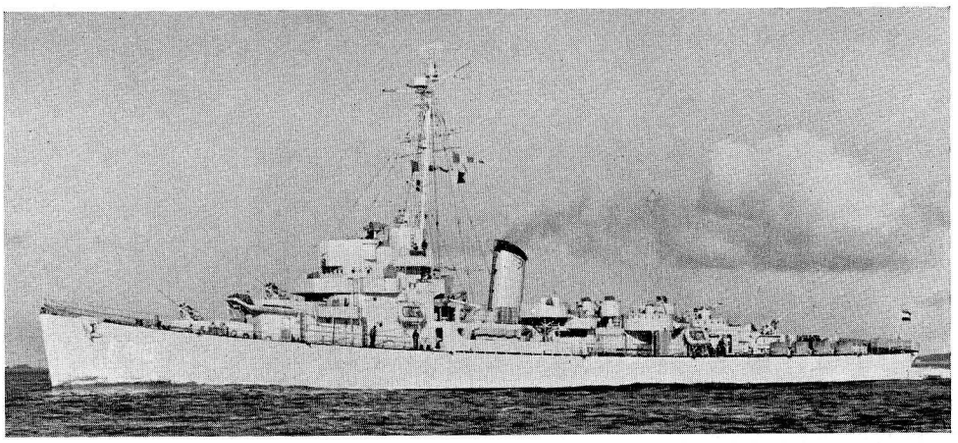
6 " De Bitter " Class
(Ex-U.S. Destroyer Escort Type)

DE BITTER (ex-U.S.S. *Rinehart*, *DE* 196)
DE ZEEUW (ex-U.S.S. *Eisner*, *DE* 192)
DUBOIS (ex-U.S.S. *O'Neill*, *DE* 188)
VAN AMSTEL (ex-U.S.S. *Burrows*, *DE* 195)
VAN EWIJCK (ex-U.S.S. *Gustafson*, *DE* 182)
VAN ZIJLL (ex-U.S.S. *Stern*, *DE* 187)

Displacement:	1,300 tons *standard*, 1510 tons *normal* (1,900 tons *full load*), officially revised figures
Dimensions:	306 (*o.a.*) × 36½ × 14 (*max.*) feet
Guns:	3—3 inch, 50 cal. d.p., 6—40 mm. AA., 18—20 mm. AA.
A/S weapons:	1 Hedgehog, 8 D.C.T.
Machinery:	General Motors diesels. Electric drive. B.H.P.: 6,000=19 kts.
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	210

Notes
Ex-United States destroyer escorts, DE, of the " Bostwick " class acquired under the Mutual Defense Assistance Program. *Van Amstel* and *De Bitter* were commissioned in the Royal Netherlands Navy on 1 June 1950 and delivered at Den Helder in Aug. 1950. *Dubois* and *Van Ewijck* were delivered on 23 Oct. 1950, and *De Zeeuw* and *Van Zijll* on 3 May 1951, at Boston. Torpedo tubes were removed.

Recent Disposals of Frigates
Johan Maurits van Nassau was scrapped in 1960; *Van Speijk* was stricken from the active list in 1960: *Batjan*, *Boeroe* and *Ceram* in 1958; *Jan van Brakel* in Aug. 1957; *Soemba* in Jan. 1956; *Van Kinsbergen* on 1 Dec. 1955; *Flores* on 1 May 1955. (*Flores* was renamed *Van Speijk* after original *Van Speijk* was stricken from the active list.)



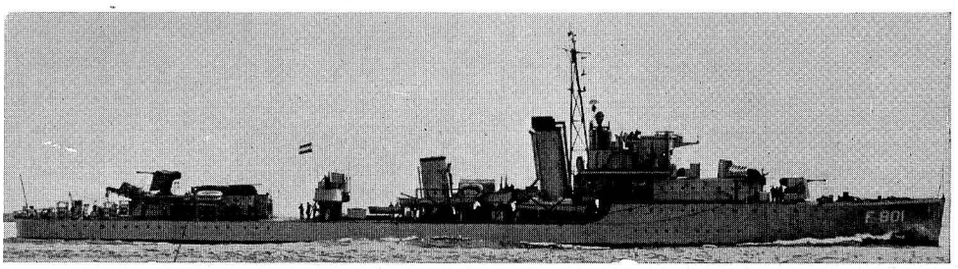
DE ZEEUW — 1961, *Royal Netherlands Navy, Official*

Pennant No.	*Name*	*Builder*	*Launched*	*Completed*
F 807	*De Bitter*	Federal S.B. & D.D. Co., Port Newark	24 Oct. 1943	19 Dec. 1943
F 810	*De Zeeuw*	Federal S.B. & D.D. Co., Port Newark	12 Dec. 1943	1 Jan. 1944
F 809	*Dubois*	Federal S.B. & D.D. Co., Port Newark	14 Nov. 1943	6 Dec. 1943
F 806	*Van Amstel*	Dravo Corporation, Wilmington, Del.	8 Jan. 1944	12 Feb. 1944
F 808	*Van Ewijck*	Federal S.B. & D.D. Co., Port Newark	3 Oct. 1943	1 Nov. 1943
F 811	*Van Zijll*	Federal S.B. & D.D. Co., Port Newark	31 Oct. 1943	1 Dec. 1943

1 Ex-British Destroyer

MARNIX (ex-H.M.S. *Garland*)

Pennant No.:	F 801
Builders:	Fairfield S.B. & Engineering Co. Ltd., Govan, Glasgow
Laid down:	22 Aug. 1934
Launched:	24 Oct. 1935
Completed:	3 Mar. 1936
Displacement:	1,335 tons *standard* (1,927 tons *full load*) see notes
Dimensions:	312 (*pp.*), 323 (*o.a.*) × 33 × 8½ (*mean*) feet
Guns:	2—4·1 inch, 6—20 mm. AA.
A/S weapons:	Rocket launcher in " B " position. 2 hedgehogs, 4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 34,000=34 kts. (30 kts. sea speed)
Boilers:	3, of 3-drum type
Oil fuel:	455 tons
Complement:	193



MARNIX — 1955. *Royal Netherlands Navy, Official*

Notes
Former British destroyer of the " G " flotilla. Served with distinction under the Polish flag for the greater part of the Second World War. Purchased by Netherlands in Dec. 1947. Underwent complete refit at the Nederlandse Dok en Scheepsbouw Mij. at Amsterdam in 1948-49. Commissioned on 16 Jan. 1950 as seagoing anti-submarine training destroyer and training ship for engine-room personnel. Has box-like clinker screen on fore funnel. Reclassified as a frigate in 1953. According to officially revised figures she now has a light displacement of 916 tons and a normal displacement of 1,455 tons.

CORVETTES

6 " Fret " Class
U.S. PCE Type Escort Patrol Vessels

FRET (ex-*PCE* 1604)
HERMELIJN (ex-*PCE* 1605)
JAGUAR (ex-*PCE* 1609)
PANTER (ex-*PCE* 1608)
VOS (ex-*PCE* 1606)
WOLF (ex-*PCE* 1607)

Displacement:	808 tons *standard* (975 tons *full load*)
Dimensions:	180 (*pp.*), 184½ (*o.a.*) × 33 × 9½ (*mean*), 14½ (*max.*) feet
Guns:	1—3 inch, d.p., 6—40 mm. AA. (*Jaguar*, *Panther*, 4—40 mm.), 8—20 mm. AA.
A/S weapons:	1 Hedgehog, 2 D.C.T. (*Jaguar*, *Panther*, 4 D.C.T.), 2 D.C. racks
Machinery:	Diesels. 2 shafts. B.H.P.: 1,600 15 kts.
Complement:	96

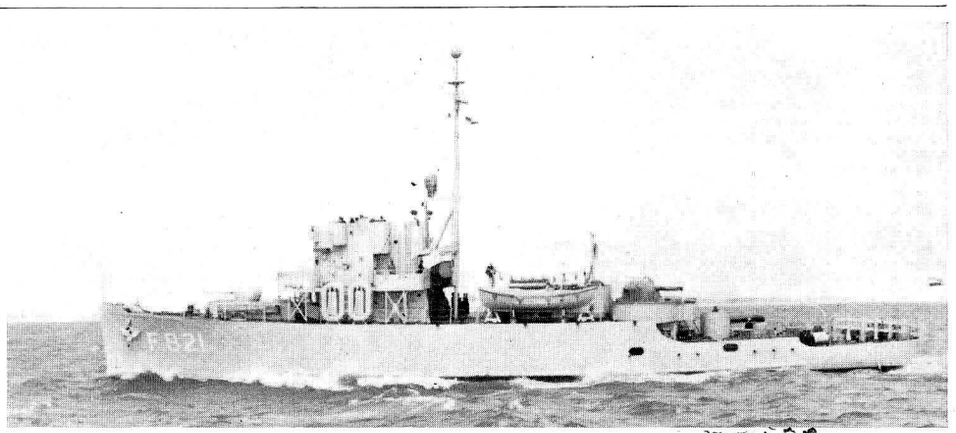
Notes
All built in U.S.A. under MDAP, *Jaguar*, *Panter* and *Wolf* by Avondale Marine Ways, Inc., *Fret*, *Hermelijn* and *Vos* by Gen. Ship-Eng. Works, Boston.

Photograph Notes
A photograph of *Fret* appears in the 1957-58 to 1960-61 editions.

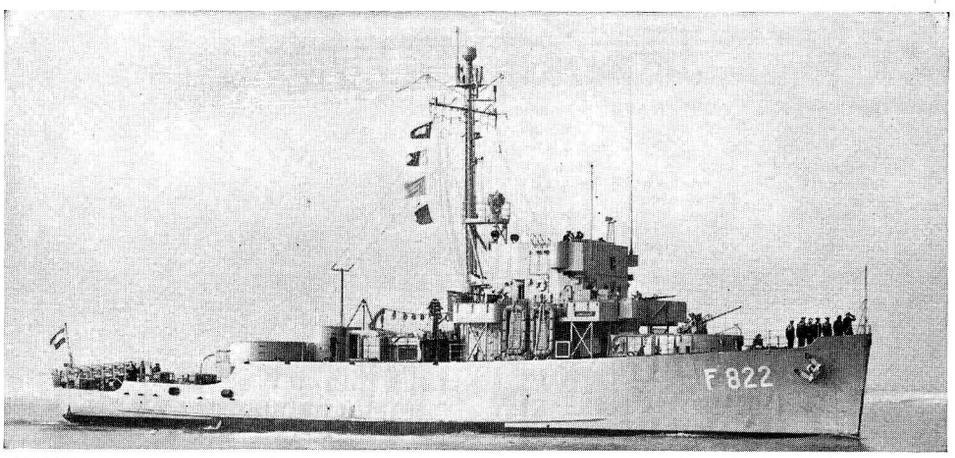
No.	*Name*	*Laid down*	*Launched*	*Completed*
F 818	*Fret*	18 Dec. 1952	30 July 1953	4 May 1954
F 819	*Hermeiljn*	2 Mar. 1953	6 Mar. 1954	5 Aug. 1954
F 822	*Jaguar*	10 Dec. 1952	20 Mar. 1954	11 June 1954
F 821	*Panter*	1 Dec. 1952	30 Jan. 1954	11 June 1954
F 820	*Vos*	3 Aug. 1953	1 May 1954	2 Dec. 1954
F 817	*Wolf*	15 Nov. 1952	2 Jan. 1954	26 Mar. 1954

Recent Disposal
The corvette *Lynx* (ex-*PCE* 1626) was handed over to the Italian Navy on 18 Oct. 1961 at Den Helder as part of the United States Mutual Defence Assistance Program and renamed *Aquila* (see Italian section, page 140).

Recent Disposal of Destroyers
The destroyers *Banckert* and *Van Galen* were sold for scrap on 8 Feb. 1957, *Banckert* to J. de Smedt at Antwerp and *Van Galen* to Frank Rijsdijk's Industriele Handelsondernemingen at Hendrik-Ido-Ambacht.



PANTER — 1962, *Royal Netherlands Navy, Official*



JAGUAR — *Added* 1961, *Wright & Logan*

SUBMARINES (*Onderzeeboten*)

New Construction

POTVIS **TONIJN**

Notes

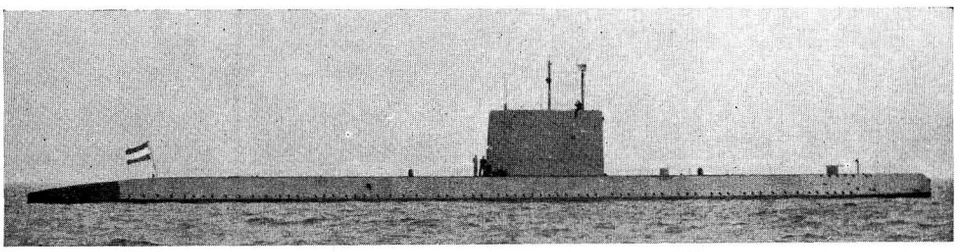
Two conventional submarines of the triple-hulled ocean-going type are under construction at Wilton Fijenoord Dockyard in Rotterdam. Building started in the middle of 1962. It is reported that the construction of two submarines of the U.S. "Barbel" class will be delayed until 1968.

2 Triple Hulled Oceangoing Type

DOLFIJN **ZEEHOND**

Name	*Dolfijn*	*Zeehond*
Builders:	Rotterdam DD Co.	Rotterdam DD Co.
Laid down:	30 Dec. 1954	30 Dec. 1954
Launched:	20 May 1959	20 Feb. 1960
Completed:	16 Dec. 1960	16 Mar. 1961

Displacement: 1,140 tons *standard*; 1,494 tons *surface*; 1,826 tons *submerged* (Officially revised figures, 1961)
Dimensions: 260⅝ × 25⅔ × 15⅔ feet
Tubes: 8—21 inch
Machinery: 2 MAN. 12-cyl. diesels. 2 shafts. B.H.P.: 3,100=14·5 kts. *surface* Electric motors. H.P.: 4,200=17 kts. *submerged*
Complement: 64



DOLFIJN

1961, *courtesy Godfrey H. Walker, Esq.*

General Notes

These novel submarines are of a new triple-hulled design with electric propulsion on the surface and submerged. Maximum depth: 980 feet. Four new submarines were voted for in 1949, but the contracts for the two ordered from N.V. Dok en Werf Mij Wilton-Fijenoord at Schiedam, *Potvis*, O 34 and *Tonijn*, O 35, were cancelled and their construction suspended pending a study of future requirements. The order has now been replaced (see above

Construction Notes

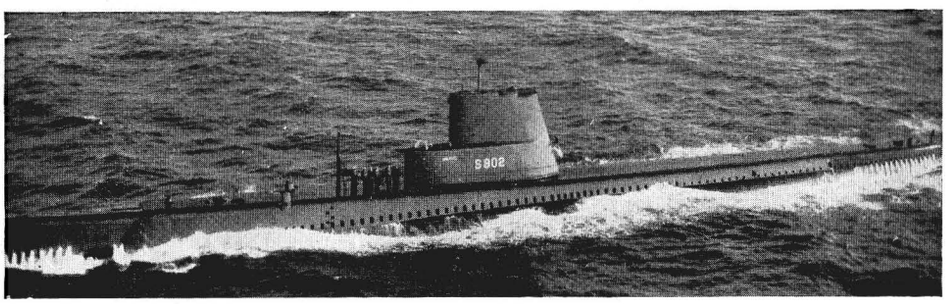
The hull consists of three cylinders arranged in a pyramid shape. The uppermost cylinder accommodates the crew, as well as navigational equipment and armaments. The other two cylinders are designed for propulsion, containing diesel engines and electric motors. The pyramid shape of three cylinders is covered with a steel hull, designed to make the submarine able to resist higher external pressures. See Frontispiece of the 1959-1960 edition for scale models—cutaway longitudinal section showing double decker roominess, and cross section showing triple hull permitting greater diving depth.

2 "Walrus" Class (Ex-American "Balao" Type)

WALRUS (ex-*Icefish*) **ZEELEEUW** (ex-*Hawkbill*)

Name:	*Walrus*	*Zeeleeuw*
Pennant No.:	S 802	S 803
Builders:	Manitowoc S.B. Co., Wisconsin	Manitowoc S.B. Co., Wisconsin
Laid down:	1943	1943
Launched:	20 Feb. 1944	9 Jan. 1944
Completed:	10 June 1944	17 May 1944
Converted:	1952	1952
Transferred:	21 Feb. 1953	21 Apr. 1953

Displacement: 1,420 tons *standard*, 1,525 tons *surface* (2,425 tons *submerged*)
Dimensions: 309 (*o.a.*) × 27 × 17 feet
Tubes: 10—21 inch (6 bow, 4 stern). 24 torpedoes
Machinery: G.M. 2-stroke diesels. B.H.P.: 6,500=20 kts. (*surface*), Electric motors H.P.: 2,700=10 kts. (*submerged*)
Oil fuel: 300 tons
Radius: 12,000 miles at 10 kts.
Complement: 79



WALRUS

1961, *Royal Netherlands Navy, Official*

Notes

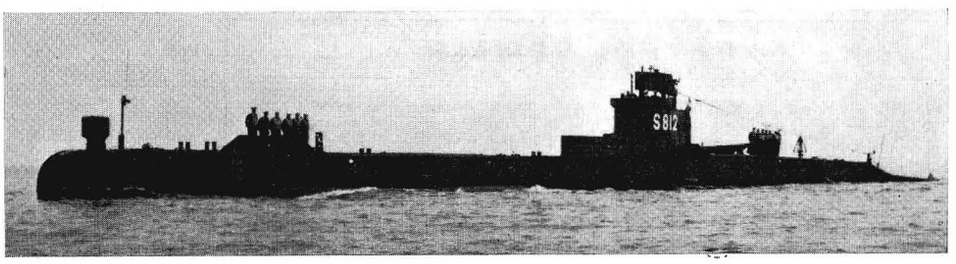
Ex-American "Balao" class submarines, acquired on loan from the United States Navy for period of five years, subsequently extended to ten years. They were transferred to the Royal Netherlands Navy on 21 Feb. and 21 April 1953, respectively, after having been converted and streamlined with enclosed conning tower "fin."

2 "Tijgerhaai" Class (Ex-British "T" Class)

TIJGERHAAI (ex-*Tarn*) **ZWAARDVIS** (ex-*Talent*)

Name:	*Tijgerhaai*	*Zwaardvis*
Pennant No.:	S 812	S 814
Builders:	Vickers-Armstrongs (Barrow)	Vickers-Armstrongs (Barrow)
Laid down:	12 June 1943	13 Oct. 1942
Launched:	29 Nov. 1944	17 July 1943
Completed:	6 Apr. 1945	4 Dec. 1944

Displacement: 1,210 tons *standard*, 1,444 tons *surface*, 1,605 tons *submerged* (officially revised figures)
Dimensions: 273½ × 26½ × 14¾ feet
Guns: 1—4 inch, 2—20 mm. AA.
Tubes: 11—21 inch (8 bow, 3 stern 3 stern and 2 bow tubes are external)
Machinery: 2 Vickers diesels. B.H.P.: 2,500=15 kts. *surface*; Electric motors. H.P.: 1,800=8 kts. *submerged*
Oil fuel: 210 tons
Radius: 9,000 miles at 10 kts.
Complement: 65



TIJGERHAAI

1962, *Wright & Logan*

Notes

These submarines were purchased from Great Britain. They are fitted with snort. Both boats have a streamlined asdic dome between the bow torpedo tubes.

Recent Disposals

O 27 was stricken from the active list on Dec. 1959 and sold. Of her sister ships, O 24 was removed from the effective list in 1956, and is now used for instruction (Pennant No. A 875); and O 21 was sold for scrap on 24 Jan. 1958.

MINESWEEPER SUPPORT SHIP (Ex-Frigate, Ex-Minelayer)

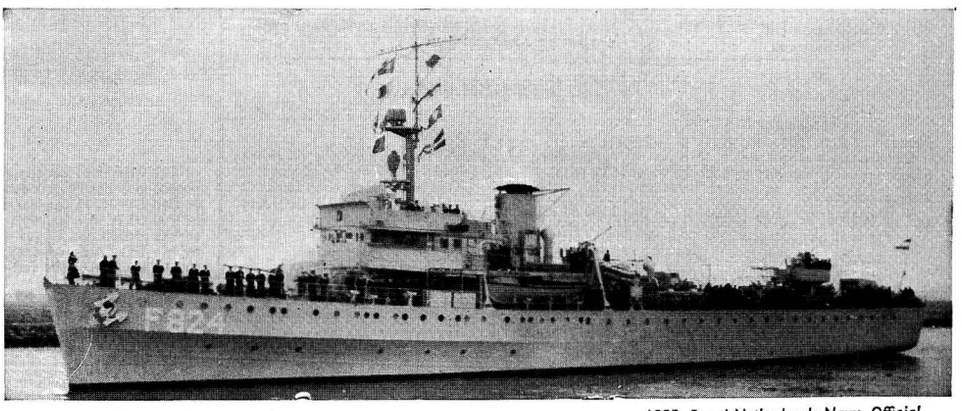
WILLEM VAN DER ZAAN

Pennant No.:	F 824
Builders:	Netherlands Dry Dock Co.
Laid down:	18 Jan. 1938
Launched:	15 Dec. 1938
Completed:	21 Aug. 1939

Displacement: 1,143 tons *standard* (1,450 tons *full load*) officially revised figures
Dimensions: 229½ (*pp.*), 247 (*o.a.*) × 36½ × 11 feet
Guns: 2—4·5 inch, 50 cal., 2—40 mm. AA.,
Machinery: 2 sets triple expansion. H.P.: 2,300=15·5 kts.
Boilers: 2 Yarrow
Oil fuel: 225 tons
Radius: 5,900 miles at 9 kts.
Complement: 160

Notes

Formerly a minelayer with a capacity of 92 mines. She was converted with a new stern and re-rated as a frigate early in 1953, but on 19 Jan. 1961 she was commissioned as a depot ship and used as an accommodation and repair ship for minesweepers at Flushing, replacing *Medusa* which went to the reserve fleet. The four 20 mm. AA. guns have been removed.



WILLEM VAN DER ZAAN

1955, *Royal Netherlands Navy, Official*

OCEAN MINESWEEPERS (*Oceannmjnenvegers*)



ONVERDROTEN 1961, *Royal Netherlands Navy, Official*

6 U.S. AM Wooden Type

ONBEVREESD (ex-*AM* 481)
ONVERDROTEN (ex-*AM* 485)
ONVERMOEID (ex-*AM* 484)
ONVERSAAGD (ex-*AM* 480)
ONVERSCHROKKEN (ex-*AM* 483)
ONVERVAARD (ex-*AM* 482)

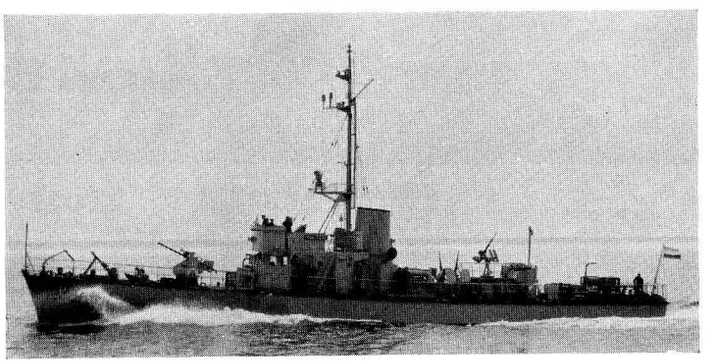
Displacement:	735 tons *standard* (790 tons *full load*) officially revised figures
Dimensions:	165 (*pp.*), 172 (*o.a.*) × 36 × 10 (*max.*) feet
Guns:	1—40 mm. Bofors AA.
A/S weapons:	2 D.C.
Machinery:	Diesel. B.H.P.: 1,600 = 15·5 kts.
Oil fuel:	46 tons
Radius:	2,400 miles at 12 kts.
Complement:	67

Notes
Built in the United States for the Netherlands under the terms of the Mutual Defense Assistance Program. All completed in 1954-55. *Onversaagd*, *Onbevreesd* and *Onvervaard* were built by Astoria Marine Construction Co. and the remaining three by Peterson Builders, Wisconsin.

Photograph Notes
A larger photograph of *Onverdroten* appears in the 1957-58 to 1959-60 editions, and a starboard bow surface view in the 1960-61 edition.

Pennant No.	*Name*	*Laid down*	*Completed*
M 884	*Onversaagd*	1952	27 May 1954
M 885	*Onbevreesd*	1952	21 Sep. 1954
M 886	*Onverschrokken*	1952	22 July 1954
M 887	*Onvermoeid*	1952	23 Sep. 1954
M 888	*Onvervaard*	1952	31 Mar. 1955
M 889	*Onverdroten*	1952	22 Nov. 1954

PATROL VESSELS



BALDER 1961, *Royal Netherlands Navy, Official*

5 U.S. SC Type Submarine Chasers

BALDER **FREYR** **HADDA**
BULGIA **HEFRING**

Displacement:	149 tons *standard* (225 tons *full load*) officially revised figures
Dimensions:	114⅜ (*pp.*), 119¼ (*o.a.*) × 20¼ × 5⅞ feet
Guns:	1—40 mm., 3—20 mm.
A/S weapons:	2 D.C.T., Mousetrap
Machinery:	Diesels. 2 shafts. S.H.P.: 1,050 = 15·5 kts.
Radius:	1,000 miles
Complement:	27

Notes
Built in the Netherlands by Rijkswerf Willemsoord with MDAP funds under the off-shore procurement programme. U.S. SC Nos. 1627-1631

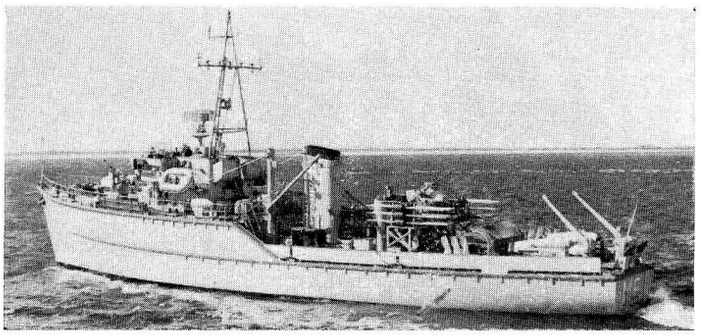
Photograph Notes
A photograph of *Hadda* appears in the 1960-61 edition.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
P 802	*Balder*	12 Sep. 1953	24 Feb. 1954	6 Aug. 1954
P 803	*Bulgia*	10 Oct. 1953	24 Apr. 1954	9 Aug. 1954
P 804	*Freyr*	24 Feb. 1954	21 July 1954	1 Dec. 1954
P 805	*Hadda*	24 Apr. 1954	2 Oct 1954	3 Feb. 1955
P 806	*Hefring*	21 July 1954	1 Dec. 1954	23 Mar. 1955

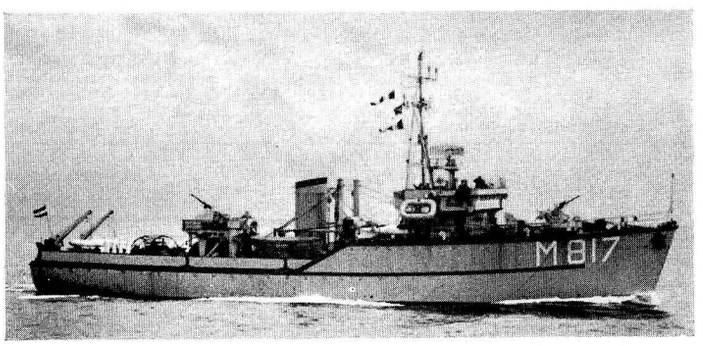
QUEEN WILHELMINA (ex-U.S.S. *PC* 468)

Notes
The patrol vessel *Queen Wilhelmina*, former American submarine chaser of the PC type, has been laid up since 1953 (see full particulars in the 1959-60 and earlier editions, and photograph in the 1947-48 to 1953-54 editions).

COASTAL MINESWEEPERS (*Mijnenvegers*)



AALSMEER 1962, *Royal Netherlands Navy, Official*



VENLO 1961, *Royal Netherlands Navy, Official*

32 " Dokkum " Class
Netherlands Wooden Type

M 811 AALSMEER
M 810 ABCOUDE
M 808 AXEL
M 801 DOKKUM
M 812 DRACHTEN
M 818 DRUNEN
M 829 ELST
M 841 GEMERT
M 805 GIETEN
M 815 GIETHOORN
M 819 GOES
M 826 GRIJPSKERK
M 802 HOGEZAND
M 827 HOOGEVEEN
M 822 LEERSUM
M 843 LISSE
M 816 LOCHEM
M 814 MEPPEL
M 809 NAALDWIJK
M 823 NAARDEN
M 813 OMMEN
M 844 RHENEN
M 806 ROERMOND
M 830 SITTARD
M 828 STAPHORST
M 824 SNEEK
M 804 STEENWIJK
M 842 VEERE
M 817 VENLO
M 807 WAALWIJK
M 803 WILDERVANK
M 820 WOERDEN

Displacement:	373 tons *standard* (417 tons *full load*)
Dimensions:	149¾ (*o.a.*) × 28 × 6½ feet
Guns:	2—40 mm.
Machinery:	2 Diesel engines, Fyenoord MAN of Werkspoor type (Netherlands). B.H.P.: 2,500 = 14 to 16 kts.
Complement:	38

Notes
Of these 32 coastal minesweepers built in the Netherlands, 18 were provided under offshore procurement to the order of the U.S. (on American account under the terms of the Mutual Defense Assistance Program) and conform to the British design of coastal minesweepers. The Netherlands built the remaining 14 minesweepers on her own account. All launched in 1954-56 and completed in 1955-57.

Photograph Notes
A photograph of *Dokkum* appears in the 1956-57 to 1961-62 editions.



BROUWERSHAVEN 1961, *Royal Netherlands Navy, Official*

14 " Beemster " Class
U.S. AMS Wooden Type

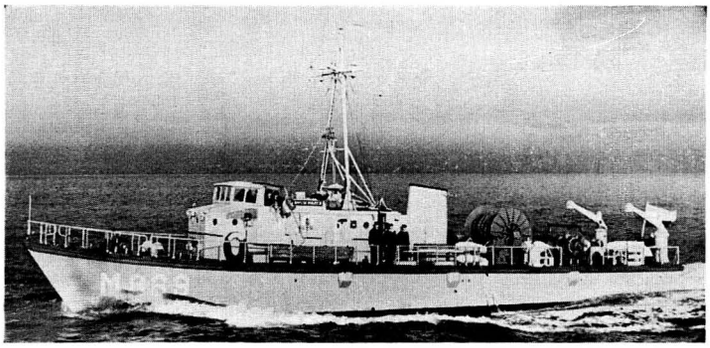
M 845 BEEMSTER (ex-*AMS* 105)
M 846 BOLSWARD (ex-*AMS* 109)
M 847 BEDUM (ex-*Beerta*, ex-*AMS* 106)
M 848 BEILEN (ex-*AMS* 110)
M 849 BORCULO (ex-*AMS* 107)
M 950 BORNE (ex-*AMS* 108)
M 851 BRUMMEN (ex-*AMS* 111)
M 852 BREUKELEN (ex-*AMS* 100)
M 853 BLARICUM (ex-*AMS* 112)
M 854 BRIELLE (ex-*AMS* 167)
M 855 BRESKENS (ex-*AMS* 148)
M 856 BRUINISSE (ex-*AMS* 168)
M 857 BOXTEL (ex-*AMS* 149)
M 858 BROUWERSHAVEN (ex-*AMS* 150)

Displacement:	330 tons *standard*, 364 tons *normal* (384 tons *full load*)
Dimensions:	138 (*pp.*), 144⅜ (*o.a.*) × 27⅞ × 7½ feet
Guns:	2—20 mm. AA.
Machinery:	2 diesels. B.H.P.: 880 = 13·6 kts.
Complement:	37

Notes
Built in U.S.A. Non-magnetic MSC (ex-AMS) type. All transferred from the U.S.N. Completed and commissioned at New Orleans, Seattle and San Francisco in 1953-54.

Photograph Notes
A photograph of *Beemster* appears in the 1955-56 to 1960-61 editions.

INSHORE MINESWEEPERS
(Ondiepwater Mijnenvegers)



BUSSEMAKER — 1961, *Royal Netherlands Navy, Official*

16 "Van Straelen" Class

ALBLAS
BUSSEMAKER
CHÔMPFF
HOUTEPEN
LACOMBLÉ
MAHU
SCHUILING
STAVERMAN
VAN DE WEL
VAN HAMEL
VAN 'T HOFF
VAN MOPPES
VAN STRAELEN
VAN VERSENDAAL
VAN WELL GROENEVELD
ZOMER

Displacement:	151 tons *light* (169 tons *full load*) officially revised figures
Dimensions:	90 (*pp.*), 99½ (*o.a.*) × 18½ × 5½ feet
Guns:	1—20 mm. AA.
Machinery:	Werkskoor diesels. 2 shafts. B.H.P.: 1,100=13 kts.
Complement:	12

Notes

The United States and the Netherlands signed an agreement for the construction of 16 inshore minesweepers for the Royal Netherlands Navy at a cost of $16,900,000. Contracts were awarded as follows: 6 to Werf de Noord at Alblasserdam; 5 to N. V. de Arnhemse Scheepsbouw Maatschappij at Arnhem; and 5 to Amsterdamsche Scheepswerf G. de Vries Lentsch jr. at Amsterdam.

Eight of these ships were built under the offshore procurement programme, with MDAP funds, and the remaining eight were paid for by the Royal Netherlands Navy.

All ordered in mid-1957. Built of wood and non-magnetic materials. The keel for *Alblas*, the first of this new type of small minesweepers was laid at the yard of Werf de Noord N. V. at Alblasserdam on 26 Feb. 1958, she was launched on 29 June 1959, started trials on 15 Jan. 1960 and was completed on 12 Mar. 1960. All the remaining ships of the class were laid down in 1958-61, launched in 1958-61 and commissioned in 1960-62.

The first nine ships built are named after naval and marine officers who distinguished themselves during the Second World War. The remaining seven are named after naval ratings who were also decorated posthumously.

DEPOT SHIP (ex-Minelayer)

1 "Hydra" Class

MEDUSA

Displacement:	600 tons
Dimensions:	163 × 29½ × 9 feet
Guns:	2—40 mm. AA.
Machinery:	2 sets triple expansion. 2 shafts. I.H.P.: 800=11 kts.
Coal:	72 tons
Complement:	60

Notes

Built at Amsterdam Naval Yard. Launched in 1911. Former minelayer, refitted as an accommodation and repair ship for minesweepers. Pennant No. A 890. Relegated to the Reserve Fleet in 1961 and replaced by *Willem van der Zaan* (see earlier page).

The following are also used as accommodation ships: A 877 *Van Speijk* (ex-*Flores*) ex-gunboat, A 878 *Tromp*, A 879 *Jacob van Heemskerck* (former cruisers), A 891 *Soemba* (former radar training ship), A 881 *Neptunus*, A 882 *Schorpioen*, A 884 *Buffel*, A 885 *Castor*, A 886 *Cornelius Drebbel*, A 887 *Haarlemmermeer* and A 888 *Hertog Hendrik* (old ships).

Recent Disposals

The depot ship *Douwe Aukes*, former minelayer converted into an accommodation and repair ship for minesweepers, was decommissioned on 1 Feb. 1962 and will be sold for scrap.

The gate vessels *Abraham Crijnssen*, *Abraham van der Hulst*, *Jan van Gelder* and *Pieter Florisz*, former minesweepers used for storing net defence gear, were transferred early in 1962 to the various sea cadet corps as training ships.

The anti-submarine experimental ship *Paets van Troostwijck* (ex-*Sud III*, ex-*Istre*, ex-*Thor Jr.*), former German whaler used for submarine detection, will be scrapped in 1961.

The former frigates *Batjan*, *Boeroe* and *Ceram*, latterly used as accommodation ships, have been scrapped.

Weather Ship Notes

The weather observation ships *Cirrus* (ex-U.S.S. *Abilene*, *PF* 58) and *Cumulus* (ex-U.S.S. *Forsyth*, *PF* 102), former American patrol frigates, are controlled by Ministry of Transport and manned by mercantile personnel. Full particulars in the 1960-61 and earlier editions. Photograph of *Cumulus* in 1957-58 edition. These two ships will soon be replaced by two new weather observation ships which will be specially built for this work.

In May 1962 the keel was laid for the first of the new weather observation ships at the yard of the N.V. Gebr. van der Werf at Deest (near Nijmegen), namely *Cumulus*. Dimensions: Length 203½, Beam 41 feet. Machinery: Werkspoor diesel. B.H.P.: 1,400=12 kts. Crew 62.

SUPPLY SHIPS (ex-Landing Ships)

1 Ex-U.S. Type

WOENDI (ex-*Steven van der Hagen*, ex-*LST* V, ex-*LST* 1034)

Displacement:	1,625 tons *light*, 3,770 tons *standard* (4,145 tons *full load*) officially revised figures
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	4—40 mm. AA., 6—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,800=11 kts.
Complement:	105

Notes

Built at Boston, Mass., in 1944. Seagoing store ship at Den Helder. Pennant No. A 832.

1 Ex-British Type

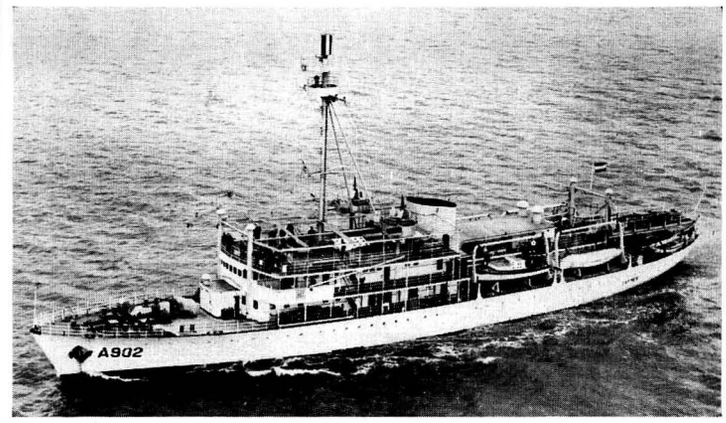
PELIKAAN (ex-H.M.S. *Thruster*, ex-*LST*)

Displacement:	2,840 tons *light*, 4,250 tons *standard* (6,538 tons *full load*) officially revised figures
Dimensions:	390 × 49 × 13 feet
Guns:	2—40 mm. AA., 10—20 mm. AA.
Machinery:	Turbine. S.H.P.: 7,000=17 kts.
Oil fuel:	2,100 tons (*max.*)
Complement:	98

Notes

Builders Harland & Wolff. Laid down 31 July 1941. Launched 24 Sep. 1942. Completed 14 Mar. 1943. Purchased and taken over from Great Britain 1947. Commissioned in the R.N.N. July 1948. Used as a store and accommodation ship at Den Helder. Pennant No. A 830. Photograph in the 1957-58 edition. Originally sister ship of H.M.S. *Boxer*.

SURVEYING VESSELS



LUYMES — *Added* 1960, *Skyfotos*

2 Sloop Type

LUYMES **SNELLIUS**

Displacement:	1,100 tons *standard* (1,538 tons *full load*) officially revised figures
Dimensions:	234½ × 35½ × 7 (*max.*) feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
A/S weapons:	2 D.C.T., 1 Mousetrap
Machinery:	Two 6-cycle, 4-stroke Stork diesels. 2 shafts. B.H.P.: 2,000=15 kts.
Complement:	108

Notes

Fitted for service in the tropics. *Snellius* built by P. Smit, jr., Rotterdam. *Luymes* built by Gusto. Schiedam. A photograph os *Snellius* appears in the 1953-54 to 1959-60 editions.

No.	*Name*	*Laid down*	*Launched*	*Completed*
A 902	*Luymes*	4 Apr. 1949	21 Apr. 1951	4 May 1952
A 907	*Snellius*	3 Jan. 1949	14 Apr. 1951	4 Feb. 1952



ZEEFAKKEL — 1957, *courtesy Netherlands Hydrographer*

1 Patrol Type

ZEEFAKKEL

Displacement:	355 tons *standard* (384 tons *full load*) officially revised figures
Dimensions:	149 (*o.a.*) 24¾ × 7 (*max.*) feet
Guns:	1—3 inch AA.; 1—40 mm. AA.
Machinery:	Two 8-cycle 4-stroke Smit M.A.N. diesels. 2 shafts. B.H.P.: 640=12 kts.
Complement:	29.

Notes

This ship was originally ordered from Vuyk but her construction was transferred later to J. & K. Smit Kinderdijk where she was laid down in Sep. 1949, launched on 21 July 1950 and completed on 22 Mar. 1951. Commissioned on 23 Mar. 1951, for service in Dutch waters. Pennant No.: A 903.

1 Coastal Type

HYDROGRAAF

Displacement:	260 tons *standard* (289 tons *full load*) officially revised figures
Dimensions:	132¾ × 22 × 9½ feet
Machinery:	Triple expansion I.H.P.: 400=10 kts.
Coal:	30 tons
Complement:	19

Notes

Built by Fijenoord, Rotterdam. Launched in 1910. Pennant No. A 901.

4 Inshore Type

DREG I **DREG II** **DREG III** **DREG IV**

Displacement:	46 tons *standard* (48 tons *full load*) officially revised figures
Dimensions:	65¾ × 15 × 5 feet
Machinery:	H.P.: 120=9·5 kts.
Complement:	10

Notes

Dreg I and *Dreg II* were launched on 15 May 1950 and completed in July 1950. Pennant Nos. A 909, A 910, A 919 and A 920, respectively.

DIVING TENDERS

5 U.S. BYMS Type (Ex-Coastal Minesweepers)

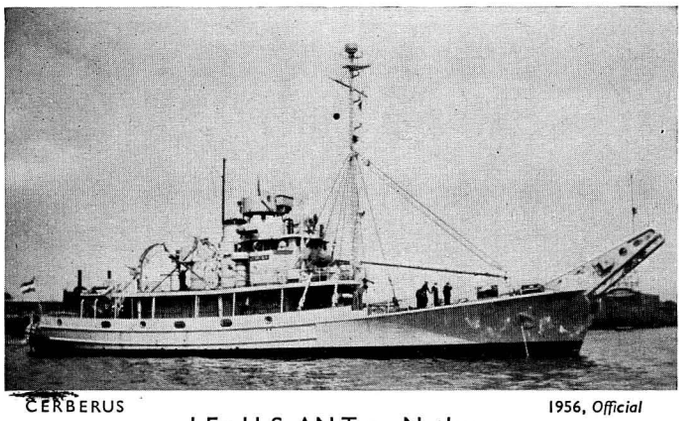
BORNDIEP (ex-*BYMS* 2210)
DEURLOO (ex-*BYMS* 2254)
MARSDIEP (ex-*BYMS* 2038)
VLIESTROOM (ex-*BYMS* 2155)
ZUIDERDIEP (ex-*BYMS* 2048)

Displacement:	286 tons *standard* (311 tons *full load*) officially revised figures
Dimensions:	136 × 24½ × 6 feet
Machinery:	Diesel. B.H.P.: 1,000=13 kts.
Oil fuel:	16 tons
Radius:	2,000 miles at 8 kts.
Complement:	26

Notes

Former coastal minesweepers re-rated as diving tenders in 1958. Of wooden construction. All launched in 1942-43. Pennant Nos. A 905 (ex-M 831), A 921 (ex-M 832), A 906 (ex-M 834), A 922 (ex-M 837) and A 904 (ex-M 840), respectively. Guns removed. Photograph of this type in the 1957-58 edition. There are also the diving tenders *Keeten*, Y 8128 (ex-*Jakhals*, ex-*RP* 104, ex-*HDML* 1337), *Mastgat*, Y 8129 (ex-*Panter*, ex-*RP* 105, ex-*HDML* 1400) and *Zijpe*, Y 8130 (ex-*Hermelijn*, ex-*RP* 106, ex-*HDML* 1483), former shallow draught minesweepers which were stricken from the active list in 1957.

BOOM DEFENCE VESSEL



CERBERUS 1956, *Official*

1 Ex-U.S. AN Type Netlayer

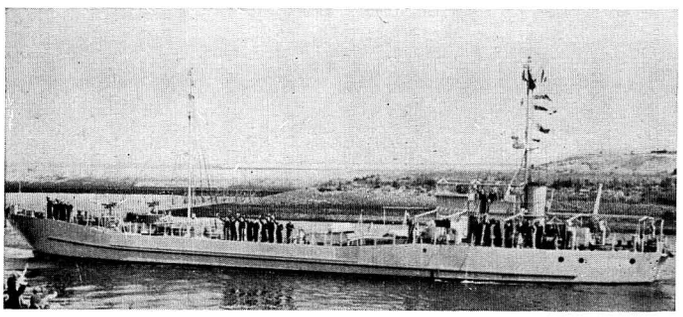
CERBERUS

Displacement:	680 tons *light*, 780 tons *standard* (902 tons *full load*) officially revised figures
Dimensions:	165×33×10 feet
Guns:	1—3 inch, 4—20 mm. AA.
Machinery:	Diesel Electric. 1 shaft. B.H.P.: 1,500=12·8 kts.
Complement:	51

Notes

Pennant No. A 895. Built by Bethlehem Steel Company, Staten Island. Launched in May 1952. Completed on 10 Nov. 1952. Commissioned on 10 Nov. 1952 in U.S.A. and transferred from the United States Navy in Dec. 1952. Equipped as salvage vessel and diving tender in 1961 to replace *Hercules* as such, but she remains a boom defence vessel.

LANDING CRAFT



L 9608 1955, *Official*

4 Ex-LCT(7) Type

L 9601 (ex-*LT* 5, ex-*LCT* 7031) **L 9607** (ex-*LT* 101, ex-*LCT* 1258)
L 9606 (ex-*LT* 10, ex-*LCT* 7125) **L 9608** (ex-*LT* 102, ex-*LCT* 1302)

Displacement:	438 tons *standard* (497 tons *full load*)
Guns:	2—20 mm. AA. (*L* 9607 and *L* 9608 only; others none)
Machinery:	Speed: 7 kts.
Complement:	20

Notes

Ex-British LCT (7) type. Officially re-rated as LST Type in 1958. *L* 9602 (ex-*LT*6, ex-*LCT* 7033) was stricken from the list in 1961.

L 9609 (ex-*Kais*)

Measurement:	468 tons *gross*
Dimensions:	137×36½×4½ feet
Machinery:	2 Kromhout diesel engines. B.H.P.: 540=8·5 kts.
Complement:	22

Notes

Built in 1954 by Arnhemsche Scheepsbouw Mij., Arnhem. Taken over from Nederl. Nieuw Guinea Petroleum Mij. on 4 June 1960. In New Guinea.

7 LCPR Type

L 9531 L 9532 L 9533 L 9534 L 9535 L 9536 L 9537

Displacement:	55 tons
Machinery:	Diesels. 2 shafts. B.H.P.: 200=10 kts.
Guns:	2—12·7 mm. AA.
Complement:	6

Notes

LCPR type. Built by Rijkswerf Willemsoord Den Helder 1955. In the waters of New Guinea.

2 Ex-LCM Type

L 9661 (ex-*LU* 1, ex-*LCM* 408) **L 9662** (ex-*LU* 2, ex-*LCM* 451

Notes

Ex-LCM type. Officially re-rated as LCMS type in 1958.

13 Ex-LCA Type

L 9505 L 9508 L 9516 L 9519 L 9521 L 9523 L 9525
L 9509 L 9518 L 9520 L 9522 L 9524 L 9526

Notes

Ex-LCA type. Now officially rated as LCMS Type. L. 9501 and L 9502 were scrapped in 1957. L 9506 was officially deleted from the list in 1958 and L 9503, L 9504, L 9515 and L 9517 in 1960.

Some new amphibious assault craft will be built in 1961 to replace some of the old landing craft taken over from the R.N. Will be stationed in New Guinea.

OILERS

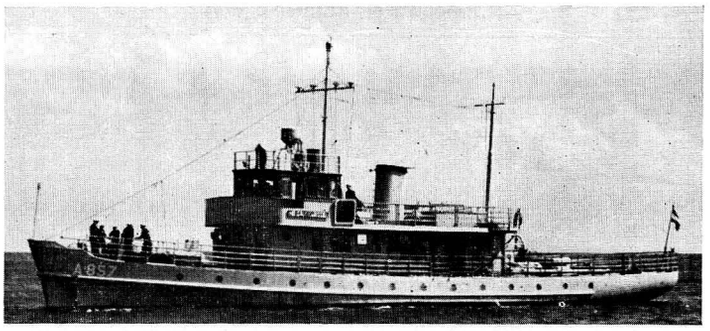
1 New Construction

Displacement:	16,800 tons *full load*
Measurement:	10,300 tons *deadweight*, officially revised figures
Dimensions:	515 (*pp.*), 552½ (*o.a.*)×66¾×27 feet
Guns:	2—40 mm. AA.
Machinery:	Steam turbines. S.H.P.: 22,500=21 kts. (*max.*), service speed 18 kts.

Notes

A new fast fleet replenishment tanker and supply ship ordered from Rotterdam Dry Dock Co. and laid down in Sep. 1962 for delivery at the end of 1963. To be equipped with a helicopter deck aft.

TENDERS



HENDRIK KARSSEN 1961, *Royal Netherlands Navy, Official*

1 Transport Type

HENDRIK KARSSEN (ex-*Y* 807, ex-*RC* 11, ex-*De Mok* 1)

Displacement:	172 tons *standard* (185 tons *full load*)
Dimensions:	137¾ (*o.a.*), 114 (*pp.*)×20¾×5½ feet
Guns:	2—20 mm. AA.
Machinery:	2 Kromhout diesels. B.H.P.: 180=11 kts.
Complement:	18

Notes

Built by Rijkswerf Willemsoord. Launched in 1939. Midshipmen tender. Equipped with water monitors for fire fighting. Renamed *Hendrik Karssen* in 1954. Pennant No. A 857.

2 Torpedo Type

KROM HOUT **MERCUUR**

Displacement:	274 tons *standard* (290 tons *full load*), officially revised figures
Dimensions:	137½ (*pp.*), 140 (*o.a.*)×23×9 feet
Machinery:	Diesel engine. B.H.P.: 375=12 kts. (see *Notes*).
Complement:	35

Notes

Mercuur was built by Rijkswerf Willemsoord. Launched on 26 Feb. 1936. Tender to Torpedo School. Pennant No. A 829. Rebuilt in 1960, triple expansion replaced by a diesel engine, and guns removed. A second tender to the Torpedo School is to be built under the 1961 Navy Estimates. A torpedo retriever, she was ordered in Oct. 1961 from the Zaanlandsche Scheepsbouw Mij at Zaandam.

TRAINING SHIPS

1 Ex-German Type

HOBEIN (ex-*Doornbos*, ex-*Dornbusch*)

Displacement:	132 tons
Dimensions:	92 (*o.a.*), 83½ (*pp.*)×19¾×5½ feet
Guns:	1—40 mm. AA., 1—20 mm. AA.
Machinery:	Diesel. B.H.P.: 250=8·5 kts.
Complement:	10

Notes

Formerly German. Is used as a navigational training ship for midshipmen, but is officially listed as a patrol vessel. Pennant No. P 882. Renamed *Hobein* in July 1952.

1 Schooner Type

URANIA (ex-*Tromp*)

Displacement:	38 tons
Dimensions:	72×16½×10 feet
Machinery:	Diesel. H.P.: 65
Complement:	8

Notes

Schooner used for training cadets in seamanship. Commissioned on 23 Apr. 1938. Pennant No. Y 8050.

(*van Kinsberger*, former frigate, ex-gunboat, is now instruction ship, Pennant No. A 876, at the Technical Training Centre in Amsterdam with *Westerschelde*, ex-*M* 839, ex-*BYMS* 2046, former U.S. auxiliary motor minesweeper. Pennant No. A 873.)

TUGS

2 Tropical Type

WAMANDAI

Displacement:	159 tons *standard* (185 tons *full load*)
Dimensions:	89¼×21½×7½ feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. B.H.P.: 500=11 kts.

Notes

Built by Rijkswerf, Willensoord, Den Helder. Launched on 28 May 1960. Equipped with salvage pumps and fire fighting gear. Pennant No. Y 8035. (She was not shipped to New Guinea; she is still in Dutch waters and stationed at Den Helder.)

WAMBRAU

Displacement:	154 tons *standard* (184 tons *full load*)
Dimensions:	86½ (*o.a.*)×20¾×7½ feet
Machinery:	Werkspoor diesel and Kort nozzle. B.H.P.: 500=10·8 kts.

Notes

Built by Rijkswerf Willemsoord. Launched on 27 Aug. 1956. Completed on 8 Jan. 1957 For naval service in New Guinea. Shipped to New Guinea in Jan. 1957. Equipped with salvage pumps and fire implements. No armament. Pennant No. Y 8036.

1 Salvage Type

HERCULES (ex-*Walcheren XII*, ex-*Atlas*)

Displacement:	400 tons *standard* (440 tons *full load*)
Dimensions:	142×29×15 feet
Guns:	2—20 mm. AA.
Machinery:	M.W.M. diesel. B.H.P.: 840=12 kts.
Complement:	20

Notes

Built as a tug for the German Air Force Flotilla. Launched by Nobiskrug Dockyard, Rendsberg, in 1944. Completed in Amsterdam in 1950. Fitted with pumps and salvage gear for use as salvage vessel and diving tender and commissioned on 18 Jan. 1951, but after *Cerberus* was equipped as salvage vessel she was used as a tug only. Pennant No. A 828. Photograph in the 1957-58 edition.

4 Harbour Type

BERKEL DINTEL DOMMEL IJSSEL

Displacement:	139 tons *standard* (163 tons *full load*)
Dimensions:	82 (*o.a.*)×20½×7½ feet
Machinery:	Werkspoor diesel and Kort nozzle. B.H.P.: 500

Notes

Harbour tugs built for the Royal Netherlands Navy at the yard of H. H. Bodewes, Millingen. They were specially designed for use at Den Helder. Completed on 27 Dec. 1956, 23 Jan. 1957, 27 Feb. 1957 and 27 Mar. 1957, respectively. Pennant Nos. Y 8037-Y-8040.

Recent Disposals

The tugs *Orkaan* and *A* 847 (ex-*MV* 4, ex-*Hollandia*), former trawler and auxiliary minesweeper, were stricken in 1961.

ROYAL NEW ZEALAND NAVY

Naval Board

Chairman:
The Hon. Dean J. Eyre, M.P.

First Naval Member and Chief of Naval Staff:
Rear Admiral P. Phipps, C.B.E. D.S.C. and Bar, V.R.D.

Second Naval Member (Personnel):
Commodore L. S. Stanners, O.B.E.

Third Naval Member (Supply, Transport and Works):
Commodore E. A. G. Whittle, C.B.E., M.I.Mar.E.

Navy Secretary: Mr. D. A. Wraight.

Royal New Zealand Naval Liaison Officer, London:
Captain M. C. Ashdown, R.N.Z.N.

Personnel

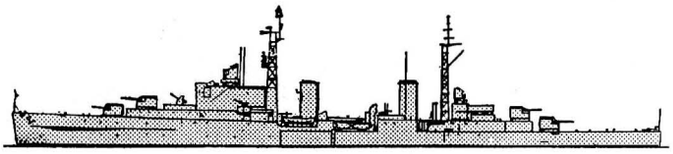
January 1959: 3,030 officers and ratings
January 1960: 2,886 officers and ratings
January 1961: 2,865 officers and ratings
January 1962: 2,778 officers and ratings

Mercantile Marine

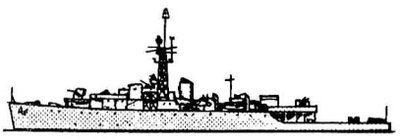
Lloyd's Register of Shipping:
150 vessels of 233,760 tons *gross*

Silhouettes

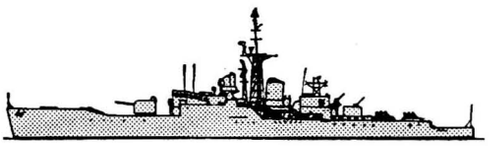
Scale: 150 ft. = 1 inch



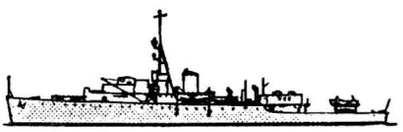
ROYALIST



"LOCH" *Class*



OTAGO, TARANAKI



LACHLAN

LIGHT CRUISER



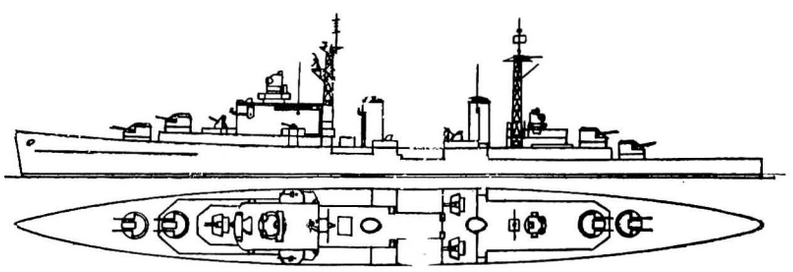
ROYALIST

1960, *Royal New Zealand Navy, Official*

1 Improved "Dido" Class

ROYALIST

Pennant No.:	C 89
Builders:	Scotts' S.B. & Eng. Co. Ltd., Greenock
Laid down:	21 May 1940
Launched:	30 May 1942
Completed:	10 Sep. 1943
Displacement:	5,900 tons *standard* (7,360 tons *full load*)
Dimensions:	Length: 512 (*o.a.*) feet. Beam: 52 feet. Draught: 15 (*mean*), 18½ (*max.*) feet
Guns:	8—5·25 inch d.p., 8—40 mm. Bofors AA.
Armour:	2" side, 2" turrets
Machinery:	Parsons single reduction geared turbines. 4 shafts. S.H.P.: 62,000 32 kts.
Boilers:	4 Admiralty 3-drum type
Complement:	550 (*peace*)



General Notes

Built under War Estimates. Sister ship of *Diadem* in the Pakistan Navy. Lent by the Admiralty to the New Zealand Government, who pays for her annual maintenance. *Royalist* was reconstructed and modernised in Great Britain; she completed her refit in 1956, being recommissioned on 10 Apr. 1956 at H.M. Dockyard, Devonport. She was formally handed over to the Royal New Zealand Navy on 9 July 1956, and left for New Zealand late in 1956, arriving at Auckland in Dec. 1956. She has new bridge of rounded form, new lattice masts, the latest gun direction equipment and air and surface radar. She was the flagship of the Royal New Zealand Navy, but now wears the pennant of the Senior Officer Afloat.

Notes to Drawing

Port elevation and plan of *Royalist*. Reconstructed with two lattice masts. Drawn in 1957. Scale: 128 feet = 1 inch

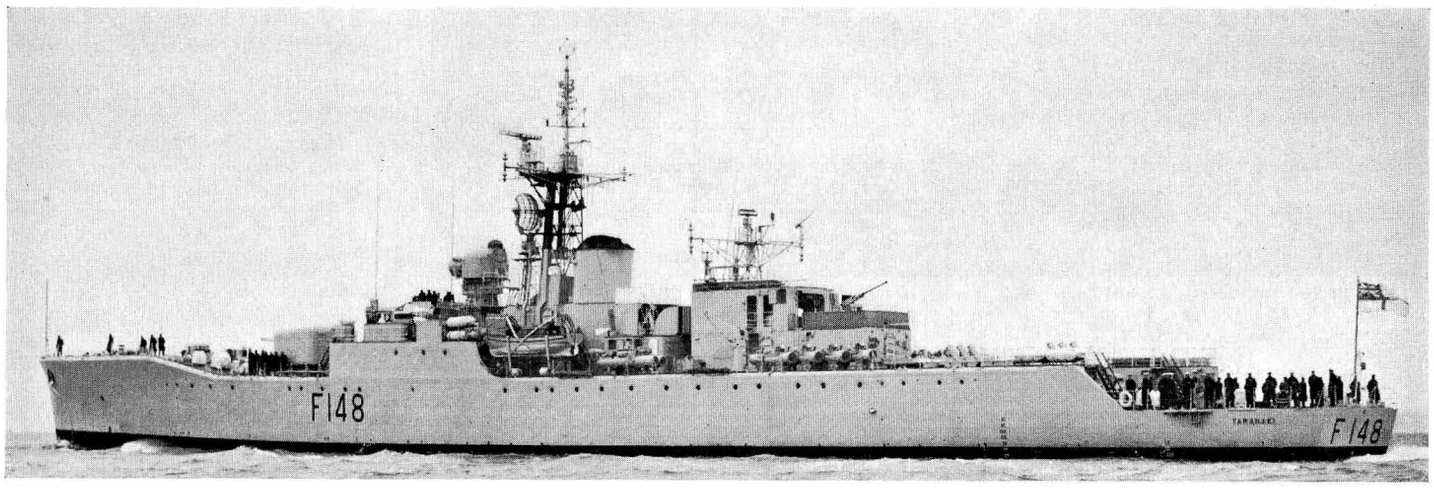
Photograph Notes

A large port bow oblique aerial view of *Royalist* appears in the 1957-58 to 1959-60 editions. A port broadside view of *Royalist* appears in the 1956-57 edition.

Recent Disposal

Sister ship *Black Prince* reverted to Admiralty control in Dec. 1961 and was scrapped in Japan in May 1962.

ANTI-SUBMARINE FRIGATES



TARANAKI (port quarter view showing superstructure and Limbos aft) 1961, *Wright & Logan*

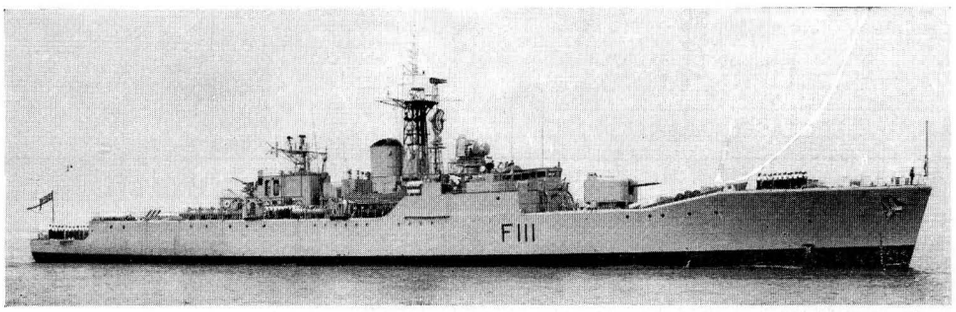
2 " Rothesay " Class. Type 12

1st Rate (*Anti-Submarine Quality Type*)

OTAGO (ex-*Hastings*) **TARANAKI**

	Otago	*Taranaki*
Name:		
Pennant No.:	F 111	F 148
Builders:	John I. Thornycroft & Co. Ltd., Woolston, Southampton	J. Samuel White & Co. Ltd., Cowes, Isle of Wight
Launched:	11 Dec. 1958	19 Aug. 1959
Completed:	22 June 1960	28 Mar. 1961

Displacement: 2,144 tons *standard* (2,557 tons *full load*)
Dimensions: 360 (*pp.*), 370 (*o.a.*) × 41 × 12 feet
Guns: 2—4·5 inch, 2—40 mm. AA.
Tubes: 12—21 inch (8 single A/S, two twin)
A/S weapons: 2 Limbo three barrelled depth charge mortars
Machinery: 2 sets double reduction geared steam turbines. 2 shafts. S.H.P.: 30,430=over 30 kts.
Boilers: 2 Babcock & Wilcox
Complement: 219



OTAGO 1960, *Wright & Logan*

Notes

Taranaki was ordered as a " Rothesay " class anti-submarine frigate (announced by J. Samuel White & Co. on 22 Feb. 1957). *Otago* was ordered earlier (officially stated on 26 Feb. 1957 that New Zealand had taken over the contract for the " Whitby " class anti-submarine frigate *Hastings*, originally ordered from John J. Thornycroft & Co. in Feb. 1956 for the Royal Navy). These vessels are generally similar to those built for service in the British Navy, but have modified accommodation to suit New Zealand conditions.

New Construction

It was reported in June 1962 that the R.N.Z.N. was seeking tenders through the Admiralty for the building of a " Leander " class frigate.

3 " Loch " Class

2nd Rate (*Anti-Submarine Escort Type*)

HAWEA (ex-*Loch Eck*) **ROTOITI** (ex-*Loch Katrine*)
PUKAKI (ex-*Loch Achanalt*, ex-*Naver*)

Displacement: 1,435 tons *standard* (2,260 tons *full load*)
Dimensions: 286 (*pp.*), 307½ (*o.a.*) × 38⅔ × 12 (*mean*), 14½ (*max.*) feet, deep load
Guns 1—4 inch, 6—20 mm.AA.
A/S weapons: 2 squid triple-barrelled depth charge mortars
Machinery: Vertical reciprocating 4-cylinder triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts.
Boilers: 2 Admiralty 3-drum type
Oil fuel: 724 tons
Complement: 114

Notes

Purchased from Great Britain in 1948, and renamed after New Zealand lakes.

Recent Disposals

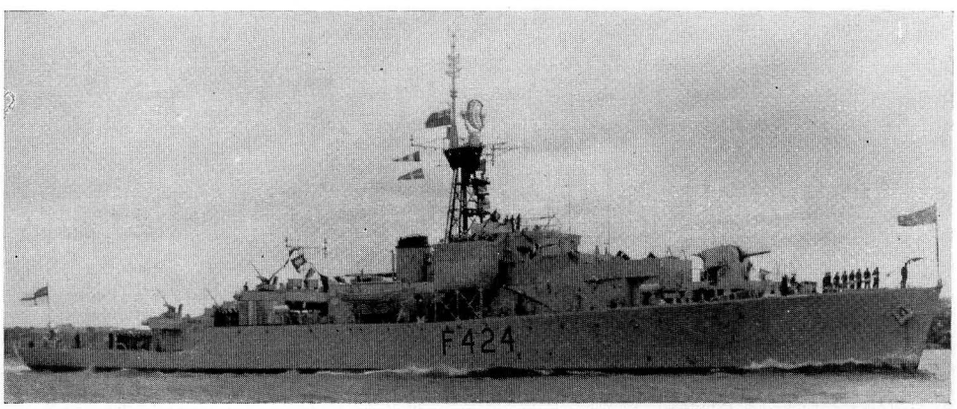
Of three sister ships, *Taupo* and *Tutira* were sold for scrap on 15 Dec. 1961, and *Kaniere* is in extended reserve and used as an alongside training ship.

Pennant No.	*Name*	*Builders*
F 422	*Hawea*	Smith's Dock Co. Ltd., South Bank-on-Tees
F 424	*Pukaki*	Henry Robb, Ltd., Leith
F 625	*Rotoiti*	Henry Robb, Ltd., Leith

Name	*Laid down*	*Launched*	*Completed*
Hawea	25 Oct. 1943	25 Apr. 1944	7 Nov. 1944
Pukaki	14 Sep. 1943	23 Mar. 1944	11 Aug. 1944
Rotoiti	31 Dec. 1943	21 Aug. 1944	29 Dec. 1944

Recent Disposal of Antarctic Support Ship

H.M.N.Z.S. *Endeavour* (ex-M.V. *John Biscoe*, ex-H.M.S. *Pretext*, ex-U.S.S. *AN 76*), former netlayer, boom defence vessel, survey ship and Antarctic support ship in turn, was declared surplus and offered for sale on 5 Sep. 1961.



PUKAKI 1962, *courtesy Mr. J. C. Jeremy*



ROTOITI 1958, *Royal New Zealand Navy, Official*

ESCORT MINESWEEPERS

4 " Bathurst " Class

ECHUCA **KIAMA**
INVERELL **STAWELL**

Displacement:	790 tons *standard* (1,025 tons *full load*)
Dimensions:	186 (*o.a.*), 162 (*pp.*) × 31 × 8½ (*mean*) feet
Guns:	1—4 inch, 1—40 mm. AA., 6 M.G.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,800=15 kts.
Boilers:	2 Admiralty 3-drum small tube type
Complement:	85

Notes

These four vessels were given to New Zealand by Australia in 1952. All are now in reserve.

Pennant No.	*Name*	*Builders*
M 252	*Echuca*	Williamstown Naval Dockyard, Melbourne
M 233	*Inverell*	Mort's Dock, Sydney
M 353	*Kiama*	Evans Deakins, Brisbane
M 348	*Stawell*	Williamstown Naval Dockyard, Melbourne

Name	*Laid down*	*Launched*	*Completed*
Echuca	22 Feb. 1941	17 Jan. 1942	17 Jan. 1943
Inverell	7 Dec. 1941	2 May 1942	2 May 1943
Kiama	2 Nov. 1942	3 July 1943	26 Jan. 1944
Stawell	18 June 1942	3 Apr. 1943	7 Aug. 1943



STAWELL — 1956, *Royal New Zealand Navy, Official*

SURVEY SHIP (Frigate)

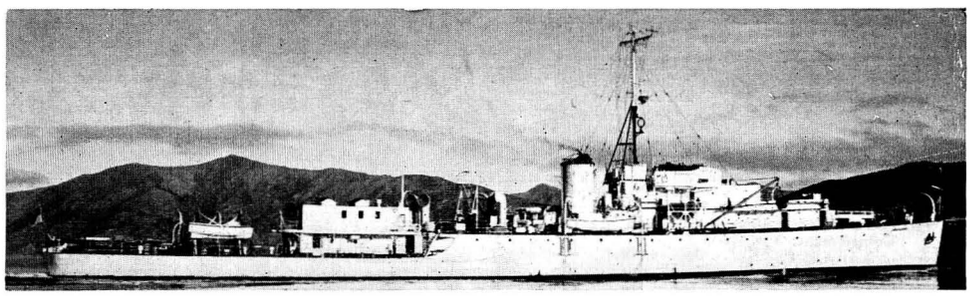
1 " River " Class

LACHLAN

Pennant No.:	F 364
Builders:	Mort's Dock, Sydney
Launched:	25 Mar. 1944
Displacement:	1,420 tons *standard* (2,220 tons *full load*)
Dimensions:	301½ × 36¾ × 12 feet
Guns:	Removed
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2 Admiralty 3-drum type
Complement:	140

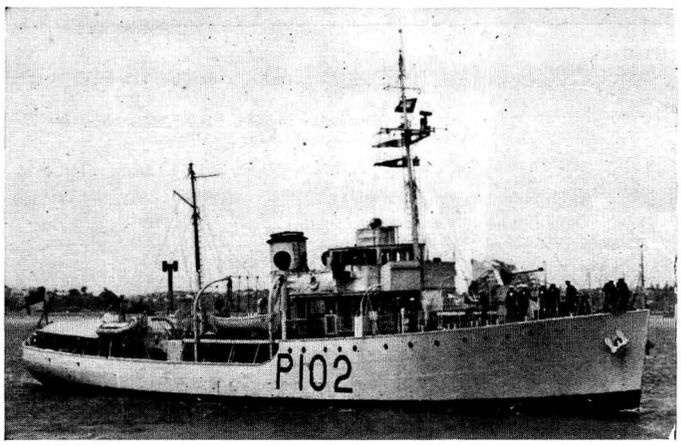
Notes

Australian " River " class frigate. Lent by the Royal Australian Navy for hydrographic survey work. She is currently engaged on re-surveying the coast of New Zealand.



LACHLAN — 1954, *Royal New Zealand Navy, Official*

PATROL VESSELS



KIWI — *R.N.Z.N., Official*

2 " Bird " Class (*Corvette type*)

KIWI P 102 (7 July 1941) **TUI** P 33 (26 Aug. 1941)

Displacement:	600 tons *standard* (825 tons *full load*)
Dimensions:	156 × 30 × 14 feet
Guns:	1—4 inch, 1—2 pdr., 4 M.G.
Machinery:	Triple expansion. I.H.P.: 1,000 14 kts.
Boiler:	1 cylindrical

Notes

Anti-submarine and Minesweeping trawlers of the corvette type. Both laid down on 19 Mar. 1940 by Henry Robb Ltd., Leith. Launch dates above. Completed on 28 Oct. 1941 and 5 Dec. 1941, respectively. Engined by Plenty & Son. *Kiwi* formerly employed as a training ship, mainly for reservists, was placed in reserve on 20 Dec. 1956. *Tui* is commissioned as a Fleet Auxiliary for duties in Oceanographical Research.

MOTOR LAUNCHES

2 Fairmile "B" Type

MAORI **PHILOMEL**

Displacement:	85 tons
Dimensions:	112 × 18¼ × 5 feet

Notes

Motor launches converted as local naval transports (harbour craft) for passenger carrying. Attached to H.M.N.Z.S. *Tamaki*, the New Entry Training Establishment at Auckland.

Lander I is employed as a naval stores carrier at Auckland. *Coastguard* was sold as a fishing boat on 7 July 1961.

SEAWARD PATROL CRAFT



MAKO — 1958, *Royal New Zealand Navy, Official*

12 HDML Type

IRIRANGI (*SDML* 3554, ex-*Q* 1192)
MAKO (*SDML* 3551, ex-*Q* 1183)
MANGA (*SDML* 3567, ex-*Q* 1185)
PAEA (*SDML* 3552, ex-*Q* 1184)
PEGASUS (*SDML* 3563, ex-*Q* 1348)
NGAPONA (*SDML* 3555, ex-*Viti*, ex-*Q* 1193)
OLPHERT (*SDML* 3562, ex-*Q* 1190)
TAKAPU (*SDML* 3556, ex-*Q* 1188)
TAMAKI (*SDML* 3553)
TARAPUNGA (*SDML* 3566, ex-*Q* 1387)
TOROA (*SDML* 3564, ex-*Q* 1350)
WAKEFIELD (*SDML* 3565, ex-*Q* 1197)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5½ feet
Guns:	1—20 mm. AA., several M.G. (not fitted at present)
Machinery:	Diesel. 2 shafts. B.H.P.: 320=12 kts.

Notes

Originally known as Harbour Defence Motor Launches. All built in various yards in the United States and Canada and shipped to New Zealand. *SDMLs Takapu* and *Tarapunga* are commissioned as surveying MLs, and operate with *Lachlan*. *SDMLs Mako, Manga* and *Paea* have been converted with lattice masts surmounted by a radar aerial, and are employed on fishery protection duties. SDML 3565 is American built.

TENDERS

HAURAKI (ex-*Endeavour*)

Notes

Powered scow. Length: 79 feet. Used for lighthouse servicing. Renamed when the Antarctic Survey Ship *Endeavour* (ex-*John Biscoe*) was purchased and commissioned in 1956.

ARATAKI **MANAWANUI**

Notes

Steel tugs. Length: 75 feet. Diesel. *Arataki* is used as a dockyard tug and *Manawanui* is used as a diving tender.

NIGERIA

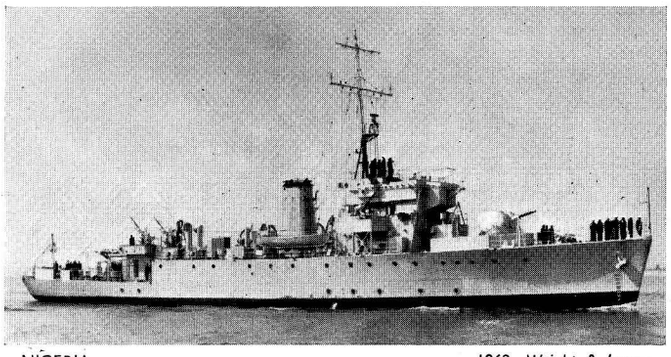
Administration

Commodore Commanding Royal Nigerian Navy:
Commodore A. R. Kennedy, O.B.E., R.Ng.N.

Personnel

80 officers and 780 ratings in 1962: but this figure is to be increased as opportunity offers.

ESCORT VESSEL



NIGERIA — 1962, *Wright & Logan*

Former British Ocean Minesweeper
1 "Algerine Class"

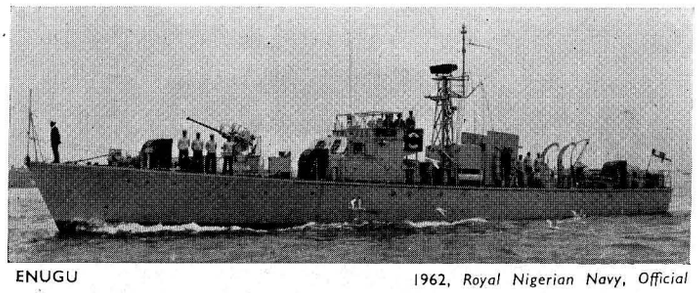
NIGERIA (ex-H.M.S. *Hare*)

Pennant No.:	M 389
Builders:	Harland & Wolff Ltd., Belfast
Laid down:	27 Nov. 1943
Launched:	20 June 1944
Completed:	10 Nov. 1944

Displacement:	1,040 tons *standard* (1,335 tons *full load*)
Dimensions:	225 × 35½ × 10 feet
Guns:	1—4 inch, 4—40 mm. Bofors AA.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 2,000=16·5 kts.
Boilers:	2 of three-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 10 kts.
Complement:	100

Notes
Former British ocean minesweeper of the "Algerine" class, the largest minesweepers in the Royal Navy, frequently used as escort vessels or corvettes. Transferred from the Royal Navy to the Royal Nigerian Navy on 21 July 1959 and renamed *Nigeria*. Refitted at H.M. Dockyard, Chatham, in May-June 1962.

SEAWARD DEFENCE BOAT



ENUGU — 1962, *Royal Nigerian Navy, Official*

1 "Ford" Type

ENUGU

Displacement:	120 tons *standard* (160 tons *full load*)
Dimensions:	110 (*pp.*), 117¼ (*o.a.*) × 20 × 5 feet
Guns:	1—40 mm. Bofors AA.
A/S weapons:	1 depth charge mortar aft, D.C. rails and large and small D.C.
Machinery:	Davey Paxman diesels. Foden engine on centre shaft. Sea speed 18 kts.
Complement:	26 (4 officers and 22 ratings)

Notes
The first warship to be built for the Royal Nigerian Navy. Contract placed with Camper and Nicholson's, Gosport, in 1960. Launched on 30 June 1961. Completed on 14 Dec. 1961 (accepted from builders). Sailed from Portsmouth for Nigeria on 10 Apr. 1962. An entirely new design of naval vessel, her purpose being to detect, locate and destroy submarines, including midget submarines, in the approaches to defended ports. Her armament includes depth charge release gear and flares. Modern electronic equipment is used in association with her armament. The boat has a comprehensive electrical installation, and is fitted with Vosper roll damping fins.

MINESWEEPING MOTOR LAUNCHES

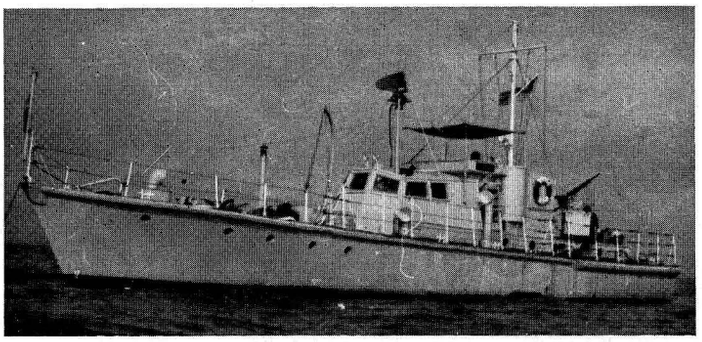
2 Fairmile "B" Type

CALABAR (ex-*MSML* 2223) **SAPELE** (ex-*MSML* 2217)

Displacement:	85 tons
Dimensions:	112 (*o.a.*) × 18¼ × 5 feet
Guns:	2—20 mm. AA. (twin mounting)
Machinery:	2 Hall Scott Defender engines B.H.P.: 1,200=20 kts. Sea speed 15·5 kts.
Complement:	16 to 18

Notes
Purchased from the Royal Navy in 1959. Pennant Nos. P 09 and P 03, respectively.

SEAWARD DEFENCE MOTOR LAUNCH



KADUNA — 1961, *Royal Nigerian Navy, Official*

1 HDML Type

KADUNA (ex-*SDML* 3515)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5½ feet
Guns:	1—20 mm. AA.
A/S weapons:	4 depth charges
Machinery:	2 Gardner diesels. 2 shafts. B.H.P.: 320=12 kts.
Complement:	14

Notes
Presented to the Royal Nigerian Navy at Portsmouth on 21 July 1959. Pennant No. P 07.

LANDING CRAFT

1 L.C.T. (4) Type

LOKOJA (ex-*LCT* (4) 1312)

Displacement:	350 tons *standard* (586 tons *full load*)
Dimensions:	187¼ × 38¾ × 4½ feet
Guns:	2—20 mm. AA.
Machinery:	2 Paxman diesels. B.H.P.: 920=10 kts.
Complement:	13

Notes
Purchased from the Royal Navy in 1959. Allocated the name *Lokoja* in 1961.

SURVEYING VESSELS

PATHFINDER

Measurement:	544 tons *gross*
Dimensions:	154½ × 27 × 11 feet
Guns:	1—40 mm. AA.
Machinery:	2 sets Triple Expansion engines. I.H.P.: 200=8 kts.
Complement:	42

Notes
Built by J. Samuel White & Co. Ltd., Cowes, Isle of Wight, in 1954. Pennant No. P 06

PENELOPE

Measurement:	79 tons *gross*
Dimensions:	79½ × 7¾ × 4½ feet
Machinery:	2 Gardner diesels. Speed 10 kts.
Complement:	15

Notes
Built by Aldous Successors, Brightlingsea, in 1959. Pennant No. P 11. Employed on Surveying duties.

CHALLENGER

Measurement:	114 tons *gross*
Dimensions:	110½ × 18½ × 5 feet
Guns:	1—40 mm. Bofors AA.
Machinery:	3 Gleniffer diesels. Speed 13 kts.

Notes
Built by Aldous Successors, Brightlingsea, in 1955. Pennant No. P 10. Employed on Customs preventive duties.

YACHT

VALIANT

Measurement:	280 tons *gross*
Dimensions:	135½ (*o.a.*) × 29 × 4¼ feet
Guns:	2—3 pdr. saluting
Machinery:	2 sets 3 cylinder triple expansion reciprocating engines. I.H.P.: 450=9 kts.
Complement:	27

Notes
A shallow draught yacht used by His Excellency The Governor General for touring in the inland waterways of Nigeria. Built by Yarrow & Co. Ltd., Scotstoun, Glasgow.

NICARAGUA

The Coast Guard of Nicaragua is under the authority of the National Guard. It is reported to consist of six patrol boats of wooden construction, four of them being 90 feet in length and two of about 80 feet in length. There is also a former patrol boat 75 feet in length of wooden construction built in 1925, which is used for training purposes. There are other small patrol boats on the east and west coasts to prevent smuggling.

ROYAL NORWEGIAN NAVY

Administration

Minister of Defence: Mr. Gudmund Harlem.
Permanent Under-Secretary: Mr. Jacob Modalsli.
Commander-in-Chief:
Vice-Admiral Erling Godtfred Hostvedt. R.No.N.
Chief of Naval Staff:
Rear-Admiral Dagfinn Ellif Kjeholt, R.No.N
Commander Coastal Fleet:
Commodore Reidar Michael Sars, O.B.E., R.No.N.
Chief of Staff (Operations):
Commodore Hans Sigurd Skjong, R.No.N.

Naval Attaché, London:
Captain Eigel John Bruen, R.No.N.

New Naval Programme

56 new warships are to be built over a five-year period, comprising five destroyer escorts, 15 submarines, five patrol craft, and 31 motor torpedo and motor gun boats.

Half the cost will be borne by Norway. The other half will be paid by the United States.

All the ships will be built in Norway except the submarines. These will be built in Germany under a special agreement.

The total number of warships by 1968 will be 93.

The plan involves a considerable increase in the numbers of officers and ratings to 7,300 (1,200 officers, 6,100 ratings).

Ships

Norwegian warships are referred to officially with the prefix K.N.M., equivalent to H.M.S.

Personnel

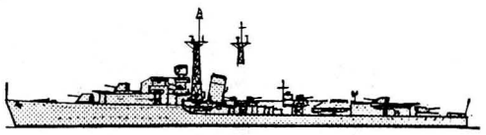
1962: 5,200 officers and ratings.
Since Mar. 1959 the suffix " R.No.N." has been used instead of " R.Nor.N." it is officially stated.

Mercantile Marine

Lloyd's Register of Shipping :
2,729 ships of 12,024,641 tons *gross*

Silhouettes

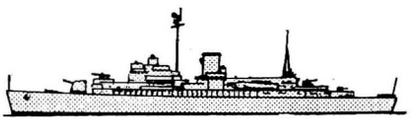
Scale: 150 ft.=1 inch.



OSLO (BERGEN inset)



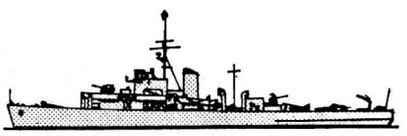
HAUGESUND, TROMSÖ



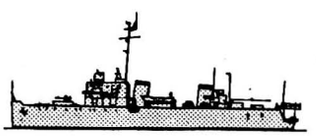
HAAKON VII



STAVANGER



DRAUG, TROLL, GARM



BRAGE, GOR, TYR, ULLER

DESTROYERS

3 Ex-British " Cr " Class

BERGEN (ex-*Cromwell*), ex-*Cretan*) **OSLO** (ex-*Crown*) **STAVANGER** (ex-*Crystal*)

Displacement:	*Bergen, Oslo:* 1,710 tons *standard*, *Stavanger*, 1,786 tons *standard* (2,640 tons *full load*)
Dimensions:	362¾ × 35¾ × 16 feet
Guns:	4—4·5 inch d.p., 6—40 mm. AA.
Tubes:	4—21 inch (quadrupled)
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts. (trial speeds 31·5 kts. first two, 32·8 *Stavanger*). Sea speed 32 kts.
Boilers:	2, of 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	241

General Notes
" Cr" class destroyers purchased from Great Britain in 1946. The construction of these vessels is entirely welded. *Oslo* is fitted as the squadron leader.

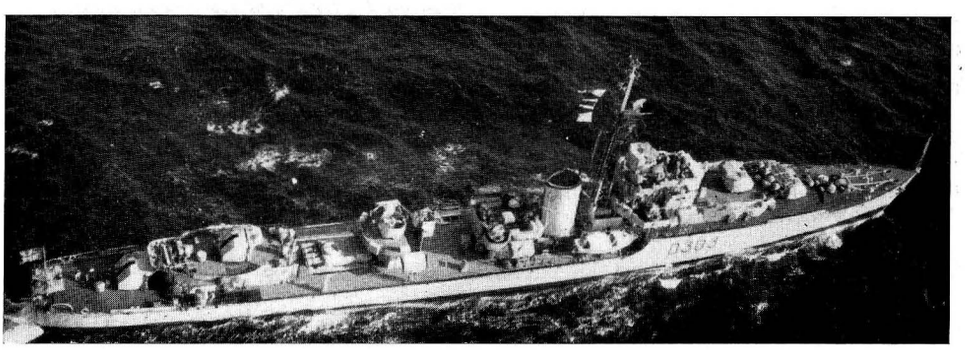
Photograph Notes
A large starboard broadside view of *Bergen* appears in the 1957-58 to 1959-60 editions, a larger starboard broadside view of *Oslo* in the 1959-60 edition, and a port bow view of *Stavanger* in the 1959-60 edition. A port quarter oblique aerial view of *Trondheim* appears in the 1958-59 to 1960-61 editions.

Pennant Nos.	*Name*	*Builders*
D 304	*Bergen*	Scotts' S.B. & Eng. Co. Ltd., Greenock
D 303	*Oslo*	Scotts' S.B. & Eng. Co. Ltd., Greenock
D 306	*Stavanger*	Yarrow & Co. Ltd., Scotstoun Glasgow

Name	*Laid down*	*Launched*	*Completed*
Bergen	24 Nov. 1943	6 Aug. 1945	16 Sep. 1946
Oslo	16 Jan. 1944	19 Dec. 1945	17 Apr. 1947
Stavanger	13 Jan. 1944	12 Feb. 1945	6 Feb. 1946

New Acquisitions
In Aug. 1959 Norway rejected a United States offer of two destroyers, claiming they would be too uneconomical to operate.

Recent Disposals
The former British destroyer *Trondheim* (ex H.M.S. Croziers) of the " Cr " class, purchased from Great Britain in 1946, see full details and photograph in the 1960-61 edition, was removed from the Navy List on 1 May 1961, it is officially stated.



OSLO

Added 1962, *Royal Norwegian Navy, Officia*



OSLO

Added 1961, *Royal Norwegian Navy, Official*

The former British destroyer *Stord* (ex-H.M.S. *Success*) of the " S " class, purchased from Great Britain in 1946, see full details and photograph in the 1958-59 edition, was striken from the Navy List in 1959, it was officially stated.

FRIGATES

5 New Construction Destroyer Escort Type U.S. Ocean Convoy Class

Displacement :	1,450 tons *standard* (1,750 tons *full load*)
Dimensions :	312 (o.a.) × 39 × 14½ (*max.*) feet
Guns :	2—3 inch, 50 cal. d.p., AA.
A/S Weapons :	" Terne " ASW rocket
Machinery:	De Laval Ljungstrom double reduction geared turbines. S.H.P.: 20,000 = 25 kts.
Complement :	175

Notes

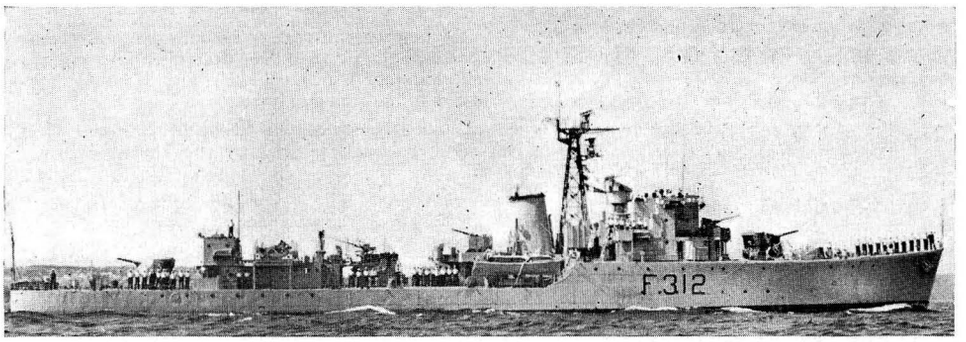
Under the new naval programme accepted by the Norwegian " Storting " (Parliament) late in 1960, and which is about to implemented, over a five-year period, five new destroyer escorts are to be built. All the ships will be constructed in Norwegian shipyards, but half the cost will be borne by Norway and the other half will be paid by the United States. The design of these ships is expected to be similar to that of the " Claud Jones " class destroyer escorts in the United States Navy. They will have traditional Norwegian destroyer or torpedo boat names.

The first vessel, which will be built at the Norwegian Admiralty Dockyard (Marinens Hovedverft) at Horten, is expected to commission in 1965.

The turbines, of a new type, and auxiliary machinery, all built by De Laval Ljungstrom, Sweden, will all be delivered from the company's works in Stockholm—Nacka, Sweden, by summer 1966.

Recent Disposal

The former British escort destroyer *Narvik* (ex-H.M.S. *Glaisdale*) of the " Hunt " class, Type III, purchased from Great Britain in 1946, see full details and photograph in the 1960-61 edition, was removed from the Navy List on 1 May 1961, it is officially stated.



HAUGESUND — *Added* 1961 *Royal Norwegian Navy, Official*

2 Ex-British " Hunt " Class, Type II

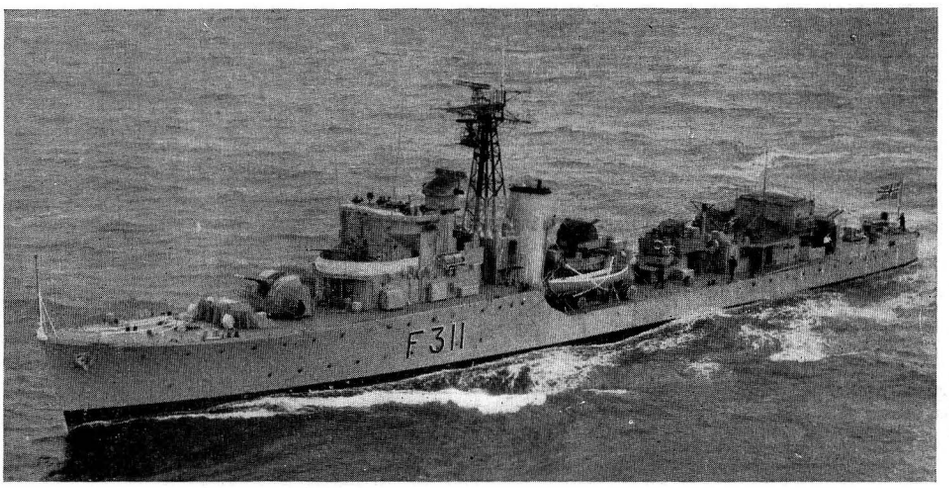
(Escort Destroyers)

HAUGESUND (ex-*Beaufort*) **TROMSO** (ex-*Zetland*)

Displacement:	1,217 tons *standard* (1,554 tons *full load*)
Dimensions:	280 (*o.a.*) × 31½ × 13 (*max.*) feet
Guns:	4—4 inch AA., 4—40 mm. AA.
A/S weapons:	2 squids in "X" position (replaces " X " guns)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=27 kts. designed (sea speed 26 kts.)
Boilers:	2, of 3-drum type
Oil fuel:	280 tons
Radius:	3,700 miles at 14 kts.
Complement :	198

Pennant Nos.	*Name*	*Builders*
F 312	*Haugesund*	Cammell Laird & C. Ltd. Birkenhead
F 311	*Tromsö*	Yarrow & Co. Ltd. Scotstoun, Glasgow

Name	*Laid down*	*Launched*	*Completed*
Haugesund	17 July 1940	9 June 1941	3 Nov. 1941
Tromsö	2 Oct. 1940	7 Mar. 1942	27 June 1942



TROMSÖ — 1958, *Skyfotos*

General Notes

Haugesund and *Tromso* were transferred by Great Britain at the end of 1952 on loan to the Royal Norwegian Navy for 4 years and were sold outright to Norway in July 1956. Of former British " Hunt " class, Type II escort destroyers, later re-rated as frigates. *Haugesund* and *Tromsö* were refitted with lattice mast and 2 squids in place of " X " twin gun mountings in 1954. *Arendal* (Norwegian commissioned on 16 Nov. 1944) was purchased from Great Britain in 1946. *Arendal* was recently used as Cadet's Training Ship; she was refitted with lattice mast in 1955. All three ships were given F , instead of D, pennant numbers, in 1956.

Photograph Notes

Other photographs of *Haugesund* appear in the 1956-57 to 1959-60 editions, and of *Arendal* in the 1953-54 to 1955-56 editions.

Recent Disposals

The former British escort destroyer *Arendal* (ex-H.M.S. *Badsworth*) of the " Hunt " class, Type II, purchased from Great Britain in 1946, see full details in the 1960-61 edition, was removed from the Navy List on 1 May 1961, it is officially stated.

Disposals of Frigates of Other Classes

The four frigates of the " Sleipner " class, *Balder*, *Gyller*, *Odin* and *Tor*, originally classified as torpedo boats but later re-rated and converted into escort vessels, see full details and photograph in the 1958-59 edition, were stricken from the Navy List in 1959, it is officially stated. Sister ship *Sleipner* was sold.

The three " Flower " class frigates, *Andenes*, *Nordkyn* and *Söröy*, were stricken from the Navy List in 1956 and sold to whaling companies. Officially stated:—*Andenes* sold to the Union Whaling Company, Sandefjord, on 17 Apr. 1956; *Nordkyn* (new name *Thoris*) and *Söröy* to Thor Dahl Ltd., Sandefjord, on 4 Aug. 1956, all three for use as buoy ships.

3 Modernised Canadian " River " Class

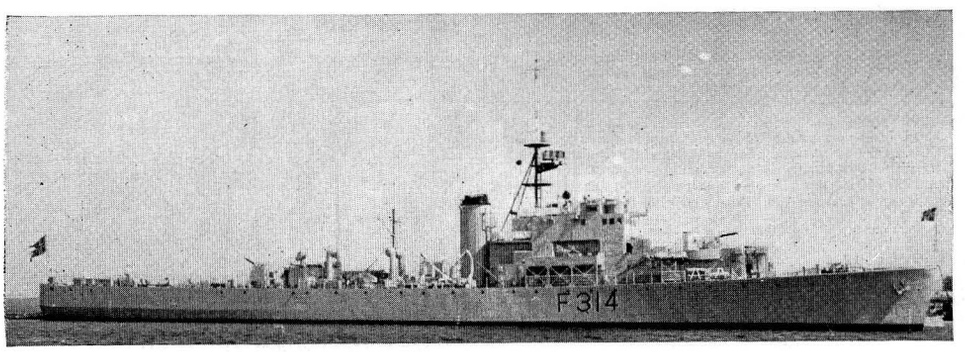
DRAUG (ex-*Penetang*) **TROLL** (ex-*Prestonian*)

GARM (ex-*Toronto*)

Displacement:	1,570 tons *standard* (2,249 tons *full load*)
Dimensions:	301½ × 36½ × 16 feet
Guns:	2—4 inch, 6—40 mm. AA.
A/S weapons:	2 Squid triple barrelled depth charge mortars
Machinery:	Triple expansion reciprocating. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2 Admiralty three-drum type
Oil fuel:	720 tons
Radius:	9,500 miles at 12 kts.
Complement:	140

Pennant No.	*Name*	*Builders*
F 313	*Draug*	Davie Shipbuilding Co., Lauzon, P.Q.
F 315	*Garm*	Davie Shipbuilding Co., Lauzon, P.Q.
F 314	*Troll*	Davie Shipbuilding Co., Lauzon, P.Q.

Name	*Launched*	*Completed*	*Transferred*
Draug	6 July 1944	19 Oct. 1944	25 Jan. 1956
Garm	18 Sept. 1943	6 May 1944	March 1956
Troll	22 June 1944	13 Sep. 1944	March 1956



TROLL — 1957, *Royal Norwegian Navy, Official*

Notes

Originally of basically similar design to British " River " class, but in 1953-54 were modernised by Canada for anti-submarine warfare and converted to flush-deckers with forecastle deck extended right aft, much larger bridge, taller funnel to clear it, bigger mast, and hull forward strengthened against ice. They were lent to Norway by Canada in 1956, *Draug* being taken over by the Royal Norwegian Navy on 25 Jan. 1956, and the other two in Mar. 1956. Their ownership was transferred to the Norwegian Government outright early in 1959. All are being employed on fishery protection duties.

Photograph Notes

A photograph of *Garm* appears in the 1955-56 to 1959-60 editions.

SUBMARINES (*Undervannsbåter*)

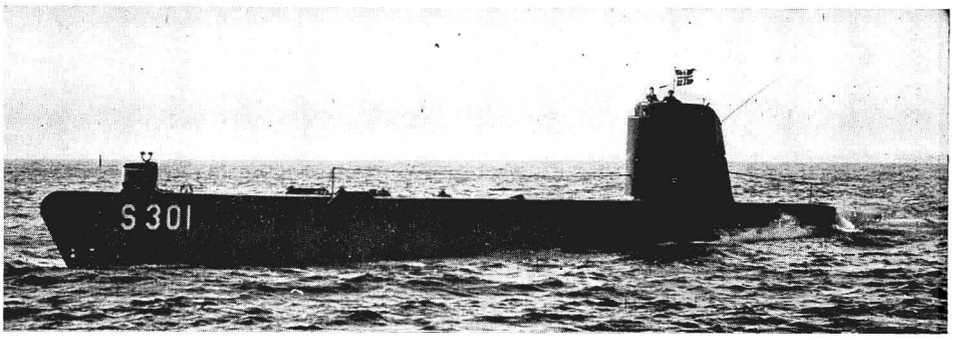
15 New Construction

Displacement : 350 tons
Tubes : 21 inch
Machinery : Diesels. Electric motors.
Complement : 30

Notes

It was announced in July 1959 that the United States and Norway are to share equally the cost of several small, modern submarines to be built under a modernisation programme. The new submarines are to be built in West Germany.

Reported to have been ordered from Howaldt, Kiel, and to be of the same type as the German U 1 class but with somewhat stronger hulls to dive deeper. To be delivered in 1963-67.



UTSIRA — *Added 1959, Royal Norwegian Navy, Official*

5 Ex-British "U" Class

ULA (ex-H.M.S. *Varne*)
UTHAUG (ex-H.M.S. *Votary*)
UTSIRA (ex-H.M.S. *Variance*)
UTSTEIN (ex-H.M.S *Venturer*)
UTVAER (ex-H.M.S. *Viking*)

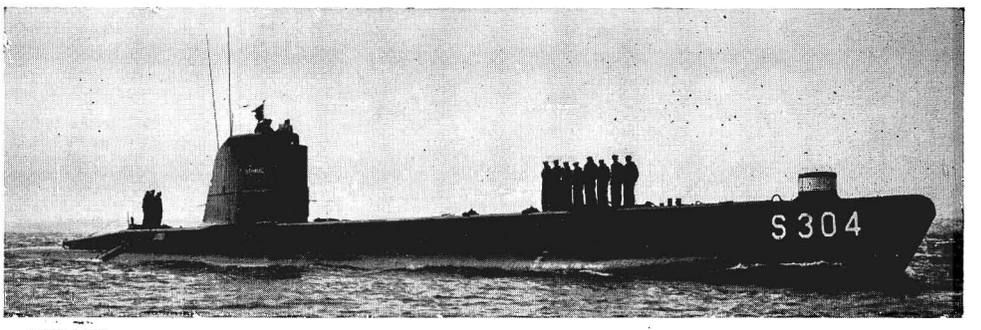
Displacement: 545 tons *standard*, 660 tons *surface*; 740 tons *submerged*
Dimensions: 204½ × 16 × 12¾ feet
Tubes: 4—21 inch
Machinery: 2 Davey Paxman diesels. 2 electric motors. H.P.: 1,050=12 kts.
Oil fuel: 55 tons
Radius: 4,000 miles at 10 kts.
Complement: 43

Notes

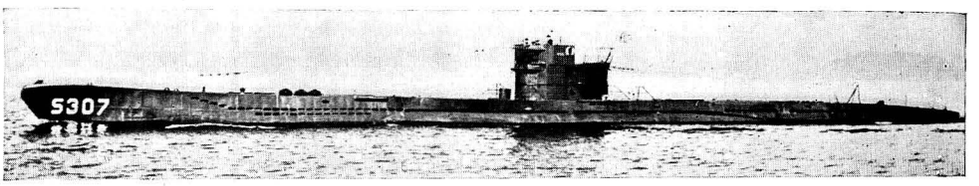
All purchased from Great Britain. Converted and modernised in 1955-56, see entirely new appearance in top photo. Gun removed, conning tower rebuilt and enlarged, streamlined throughout, equipped with snort, and fitted with sonar dome forward. Named after features of the Norwegian seaboard. *Ula* is name of the birthplace of Ulabrand the navigator.

Pennant No.	*Name*	*Builders*
S 300	*Ula*	Vickers-Armstrongs (Barrow)
S 304	*Uthaug*	Vickers-Armstrongs (Tyne)
S 301	*Utsira*	Vickers-Armstrongs (Barrow)
S 302	*Utstein*	Vickers-Armstrongs (Barrow)
S 303	*Utvær*	Vickers-Armstrongs (Barrow)

Name	*Laid down*	*Launched*	*Completed*
Ula	29 Apr. 1942	22 June 1943	3 Apr. 1944
Uthaug	21 Apr. 1943	21 Aug. 1944	13 Dec. 1944
Utsira	21 May 1943	22 May 1944	24 Aug. 1944
Utstein	25 Aug. 1942	4 May 1943	19 Aug. 1943
Utvær	3 Sep. 1942	5 May 1943	30 Aug. 1943



UTHAUG — 1957, *Wright & Logan*



KYA — 1957, *Royal Norwegian Navy, Official*

2 Ex-German VII C Type

KAURA (ex-*U* 995) **KYA** (ex-*U* 926)

Name:	*Kaura*	*Kya*
Pennant No.:	S 309	S 307
Builders:	Blohm & Voss, Hamburg	Neptun, Rostock
Launched:	1941	1942
Completed:	1942	1943

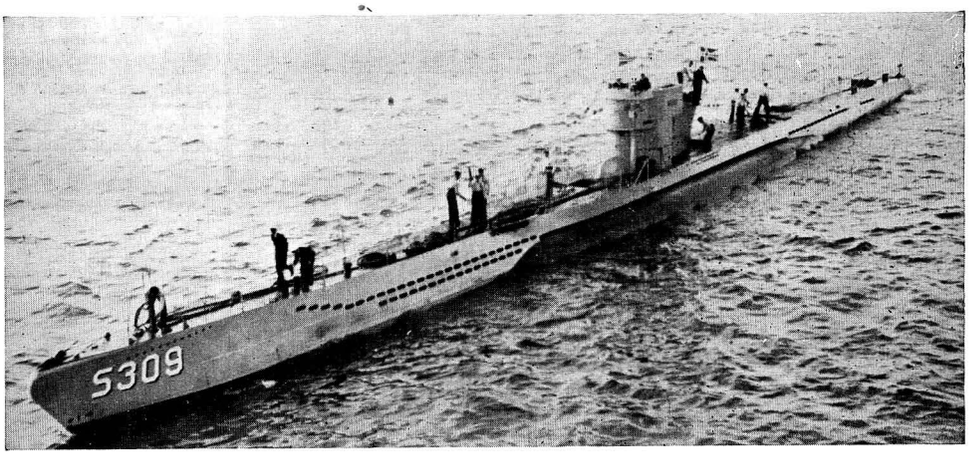
Displacement: 769 tons (*surface*), 871 tons *submerged*)
Dimensions: 220 × 20 × 15 feet
Tubes: 5—21 inch
Machinery: Krupp diesels. Electric motors. H.P. 3,900=17 kts.
Oil fuel: 100 tons
Radius: 6,500 miles at 12 kts.
Complement: 47

Notes

Ex-German *VII C* Type. Both equipped with snort. *Kaura* was allocated to Great Britain, but handed to Norway. Acquired in Oct. 1948. Have undergone major refit.

Recent Disposal

Sister ship *Kinn* (ex-*U* 1202) was removed from the Navy List on 1 June 1961, it is officially stated.



KAURA — *Added 1957, courtesy Keith Long, Esq.*

CADET TRAINING SHIP

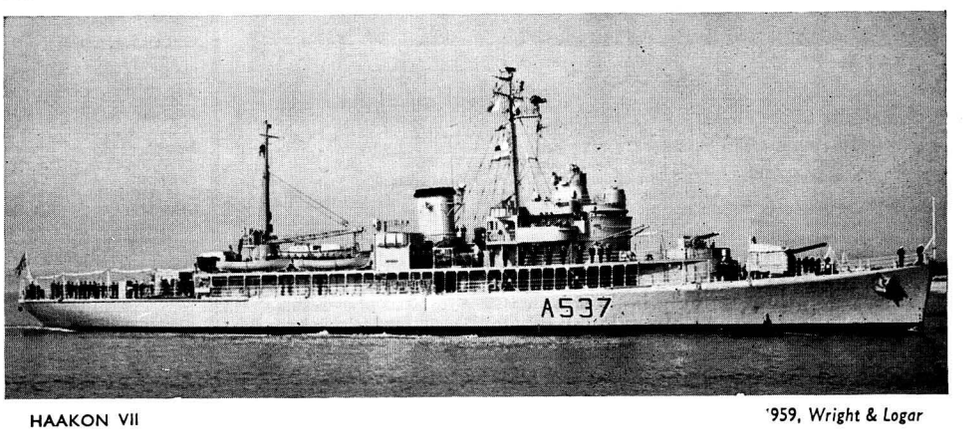
1 Ex-U.S. AVP Type

HAAKON VII (ex-U.S.S. *Gardiners Bay*, *AVP* 39)

Displacement: 1,766 tons *standard* (2,800 tons *full load*)
Dimensions: 300 (*w.l.*), 310¾ (*o.a.*) × 41½ × 13½ (*max.*) feet
Guns: 1—5 inch, 38 cal. d.p., 10—40 mm. AA., 2—20 mm. AA.
Machinery: 2 sets F.M. diesels. 2 shafts. B.H.P.: 6,080=18·2 kts.
Complement: 215 ship's company, plus 86 officer cadets and petty officer apprentices (accommodation for 367)

Notes

Formerly a United States seaplane tender (small) of the AVP type. Built by Lake Washington Shipyard, Houghton, Wash. Laid down on 14 Mar. 1944, launched on 2 Dec. 1944 and completed on 11 Feb. 1945. Transferred from the United States Navy to the Royal Norwegian Navy on 17 May 1958 and converted and rearmed for use as a training ship for midshipmen and naval cadets.

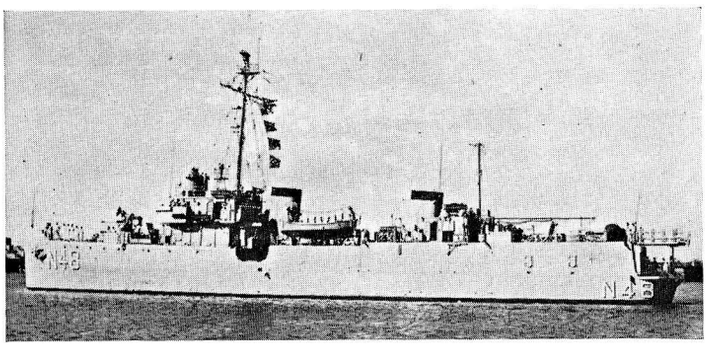


HAAKON VII — '959, *Wright & Logar*

COASTAL MINELAYERS



TYR 1962, *Royal Norwegian Navy, Official*



GOR 1960, *Royal Norwegian Navy, Official*

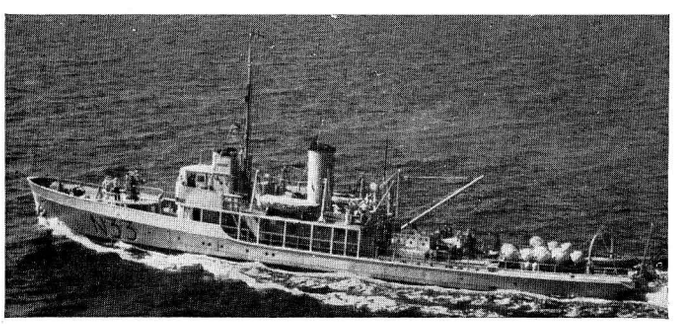
4-Ex U.S. "Auk" Class (Converted Fleet Minesweepers)

BRAGE (ex-U.S.S. *Triumph*, MMC 3, ex-*MSF* 323, ex-*AM* 323)
GOR (ex-U.S.S. *Strive*, MMC 1, ex-*MSF* 117, ex-*AM* 117)
TYR (ex-U.S.S. *Sustain*, MMC 2, ex-*MSF* 119, ex-*AM* 119)
ULLER (ex-U.S.S. *Sæer*, MMC 5, ex-*MSF* 112, ex-*AM* 112)

Displacement:	890 tons *standard* (1,250 tons *full load*)
Dimensions:	215 (*w.l.*), 221½ (*o.a.*) × 32½ × 11 feet
Guns:	1—3 inch, 50 cal. dual purpose; 4—20 mm. AA.
A/S weapons:	2 Hedgehogs, 3 depth charge throwers
Machinery:	General Motors diesels with electric drive. 2 shafts. B.H.P.: 2,070=16 kts.
Complement:	105

Notes
Former American mine vessels originally known as Ocean Minesweepers (AM) of the large steel-hulled type, reclassified as Fleet Minesweepers (MSF) in Feb. 1955. *Gor*, *Tyr* and *Uller* were built by the American Shipbuilding Company, Cleveland, Ohio, and *Brage* by Associated Shipbuilders. *Gor* and *Tyr* were converted into coastal minelayers at Charleston, S.C., Naval Shipyard for transfer from the United States Navy to the Royal Norwegian Navy under the Mutual Defense Assistance Program late in 1959, and *Brage* was converted at the same yard in 1960, but *Uller* was converted at a Norwegian shipyard.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
N 49	*Brage*	27 Oct. 1942	25 Feb. 1943	3 Feb. 1944
N 48	*Gor*	17 Nov. 1941	16 May 1942	27 Oct. 1942
N 47	*Tyr*	17 Nov. 1941	23 June 1942	9 Nov. 1942
N 50	*Uller*	28 Nov. 1941	23 May 1942	21 Oct. 1942



RAUMA 1956, *Royal Norwegian Navy, Official*

2 "Otra" Class

OTRA **RAUMA**

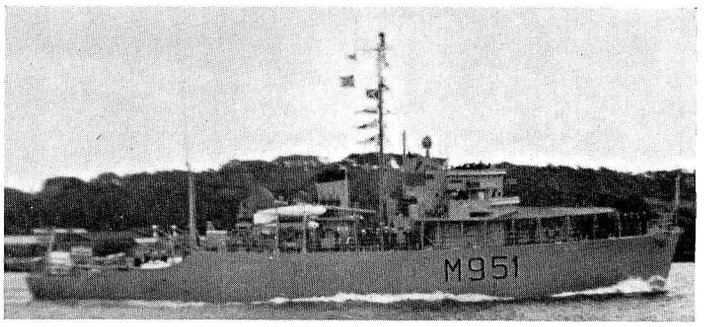
Displacement:	311 tons *standard* (350 tons *full load*)
Dimensions:	168½ × 23½ × 11⅔ feet
Guns:	1—3 inch, 2—20 mm.
Machinery:	2 Triple expansion. I.H.P.: 900=14 kts
Oil fuel:	60 tons
Complement:	31

Notes
Both were laid down at Nyland Mek. Verksted, Oslo, in Jan. 1939. *Otra* was completed in Sep. 1939. *Rauma* was completed in Jan. 1940. Pennant Nos. N 34 and N 33, respectively.

Recent Disposals
The two coastal minelayers of the converted American medium landing ship type, *Vale* (ex-U.S.S. *LSM* 492) and *Vidar* (ex-U.S.S. *LSM* 493), were returned to the U.S. Navy on 1 Oct. 1960, and transferred to Turkey under MAP in Nov. 1960.

The two auxiliary minelayers of the converted British tank landing craft type, *Reinöysund* and *Vargsund* were removed from the Navy List during 1960.

OCEAN MINESWEEPERS (Wooden)



NAMSEN *Added* 1961

2 U.S. MSO (ex-AM) Type

LAGEN (ex-*MSO* 498) **NAMSEN** (ex-*MSO* 499)

Name:	*Lagen*	*Namsen*
Pennant Nos.:	M 950	M 951
Builders:	Bellingham Shipyard ,Inc., U.S.A.	Bellingham Shipyard, Inc., U.S.A.
Laid down:	1954	1954
Launched	1955	1955
Completed:	27 Sep. 1955	1 Nov. 1955

Displacement:	665 tons *light* (750 tons *full load*)
Dimensions:	165 (*w.l.*), 171 (*o.a.*) × 35 × 9½ (*mean*) 11 (*max.*) feet
Guns:	1—40 mm. AA.
Machinery:	4 diesels. 2 shafts. B.H.P.: 1,600=15·5 kts.
Oil fuel:	46 tons
Radius:	2,400 miles at 12 kts.
Complement:	60

General Notes
These ships, which have wooden hulls and non-magnetic equipment, are of the Ocean Minesweeper, MSO (ex-fleet Minesweeper, AM) type acquired from the United States under Mutual Defense Assistance Program. They were taken over by the Royal Norwegian Navy on 27 Sep. and 1 Nov. 1955, respectively, and sailed for Norway in May, 1956. Pennant Nos. M 950 and M 951, respectively.

Photograph Notes
An official photograph of *Namsen*, a larger starboard bow view, appears in the 1957-58 to 1960-61 editions.

Recent Disposals
Of the two former British "Bangor" class fleet minesweepers of the diesel type, *Tana* was removed from the Navy List on 1 May 1961 and *Glomma* was removed on 1 Dec. 1961, it is officially stated.

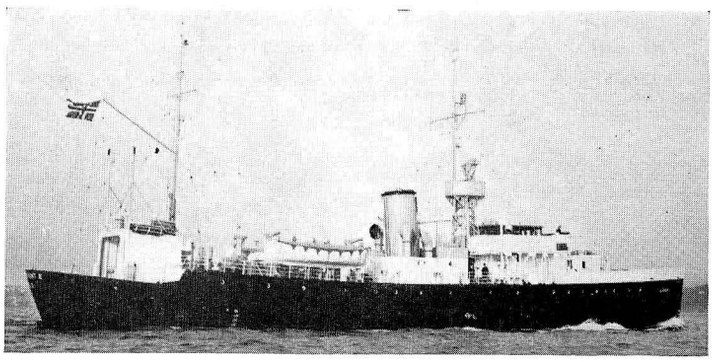
PATROL VESSELS (*Submarine Chasers*)

5 New Construction

Displacement:	600 tons
A/S weapons:	"Terne" ASW rocket

Notes
Under the new five year programme five new patrol craft are to be built. They are expected to be similar in design to the United States submarine chasers or escort vessels of the PCE type.

WEATHER SHIPS (ex-*Frigates*)



POLARFRONTII *K. Knudsen & Co., A/S Bergen, courtesy Royal Norwegian Navy*

2 Ex-British "Flower" Class

POLARFRONT I (ex-*Saxifrage*) **POLARFRONT II** (ex-*Bryony*

Name:	*Polarfront I*	*Polarfront II*
Builders:	Charles Hill & Sons Ltd., Bristol	Harland & Wolff Ltd., Belfast
Laid down:	1 Feb. 1941	16 Nov. 1940
Launched:	24 Oct. 1941	15 Mar. 1941
Completed:	6 Feb. 1942	16 June 1942

Displacement:	1,060 tons *standard* (1,300 tons *full load*)
Dimensions:	205 (*o.a.*) × 33 × 14½ (*max.*) feet
Machinery:	Triple expansion. I.H.P.: 2,750=16·5 kts.
Boilers:	2 S. E.
Oil fuel:	350 tons
Radius:	7,000 miles at 10 kts.
Complement:	46

Notes
Former British "Flower" class corvettes (later re-rated as frigates) transferred to Norway and employed as weather ships.

COASTAL MINESWEEPERS



TISTA

Added 1962 Royal Norwegian Navy, Official

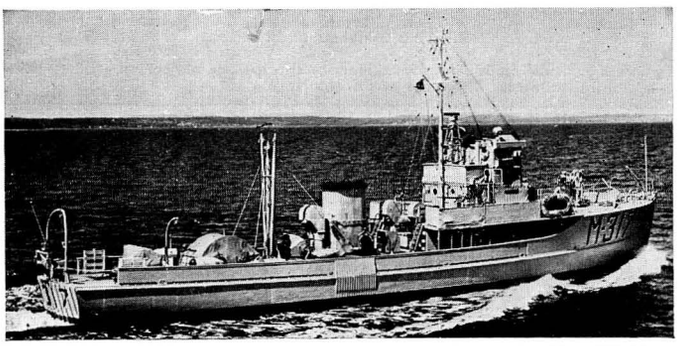
7 U.S. MSC (ex-AMS) Type

KVINA M 332
OGNA M 315
SAUDA (*ex-U.S.S. AMS 102*) M 311
SIRA (*ex-U.S.S. MSC 132*) M 312
TISTA M 331
UTLA M 334
VOSSO M 316

Displacement:	333 tons *standard* (384 tons *full load*)
Dimensions:	144×28×8½ (*max.*) feet
Guns:	2—20 mm. AA.
Machinery:	G.M. diesels. B.H.P.: 880=13·5 kts.
Oil fuel:	25 tons
Complement:	38

Notes

Suuda launched July, 1953, by Hodgedon Bros., Gowdy & Stevens, East Boothbay, Maine and completed 25 Aug. 1953. *Sira* completed 28 Nov. 1955. Hull of wood. Five wooden coastal minesweepers of the non-magnetic AMS type built in Norway, engines in U.S. Launched 21 July 1954 (*Kvina*), 18 June 1954 (*Ogna*), 1 June 1954 (*Tista*), 16 June 1954 (*Vosso*), 2 Mar. 1955 (*Utla*). completed 5 Mar. 1955 (*Ogna*), 16 Mar. 1955 (*Vossa*), 27 Apr. 1955 (*Tista*), 12 July 1955 (*Kvina*), 15 Nov. 1955 (*Utla*). *Kvina*, *Ogna* and *Utla* built by Westermoens Batbyggeri, Mandal, *Tista* by Forenede Batbyggerier, Risör, *Vosso* by Skaaluren Skibsbyggeri, Rosendal



VINSTRA

1956, *Royal Norwegian Navy, Official*

2 Ex-U.S. YMS Type

GAULA (*ex-NYMS 305*) M 318
RANA (*ex-NYMS 406*) M 330

Displacement:	260 tons *standard* (350 tons *full load*)
Dimensions:	136×24½×8½ feet
Guns:	1—3 inch, 2—20 mm. AA.
Machinery:	2 G.M. diesels. 2 shafts. B.H.P.: 1,000=14 kts.
Oil fuel:	18 tons
Complement:	33

Notes

Former United States auxiliary minesweepers of the YMS type. Of wooden construction. All transferred to the Royal Norwegian Navy under the Lend Lease scheme, *Alta*, *Begna* and *Vorma* on 22 Mar. 1945, remainder on 18 May 1945.

Recent Disposals

Sister ships *Alta* (ex-*NYMS* 379), *Vinstra* (ex-*NYMS* 247) and *Vorma* (ex-*NYMS* 480 (were stricken from the Navy List in 1959, and *Begna* (ex-*NYMS* 381) and *Driva* (ex-*NYMS* 377) were removed from the list in 1961, it is officially stated.



MMS

Added 1957

2 Ex-British MMS 11 Type (X-ray Ships)

ORKLA (*ex-MMS 1085*) M 313
VEFSNA (*ex-MMS 1086*) M 314

Displacement:	360 tons *standard* (408 tons *full load*)
Dimensions:	126 (*pp.*) 140 (*o.a.*)×26×12½ (*max.*) feet
Machinery:	Diesel. B.H.P.: 500=10 kts.
Oil fuel:	55 tons
Complement:	21

Notes

Former motor minesweepers of MMS II type purchased from Great Britain in June 1946. Of wooden hull construction. Now equipped as X-ray ships.

MOTOR GUNBOATS

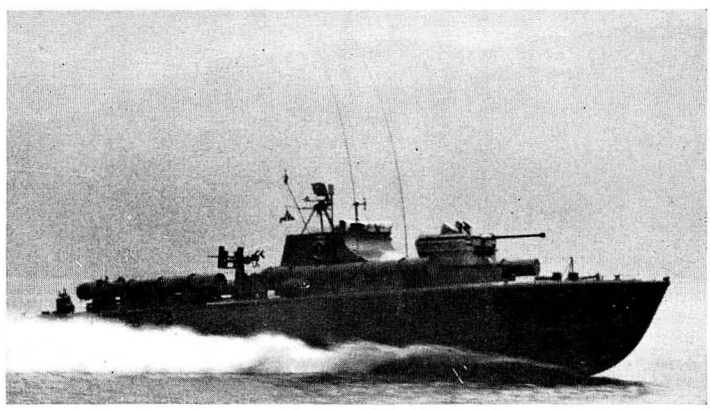
23 New Construction

Displacement	120 tons

Notes

Of the 31 motor gunboats and motor torpedo boats to be built under the new five-year programme, 23 will be motor gunboats and eight will be motor torpedo boats of the improved "Nasty" design, see next column.

MOTOR TORPEDO BOATS



TJELD

1961, *courtesy Boat Services Ltd A/S*

12 + 8 Improved "Nasty" Class

ERLE P 390
FALK P 350
GEIR P 389
GRIBB P 388
HAUK P 349
JO P 346
LOM P 347
RAMN P 357
SKARV P 344
STEGG P 348
TEIST P 345
TJELD P 343

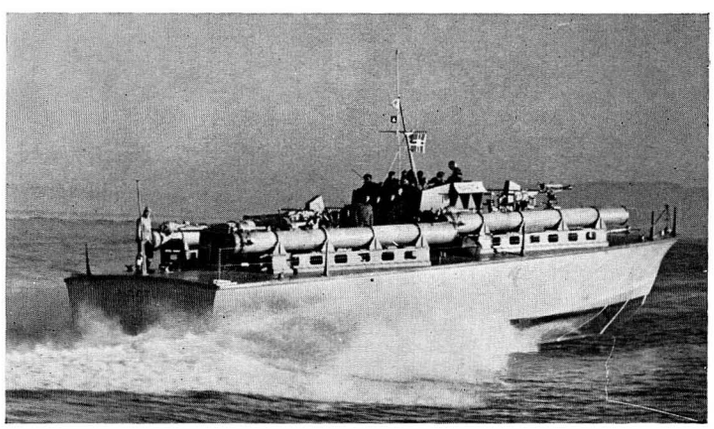
Displacement:	64 tons *light* (76 tons *full load*)
Dimensions:	75½ (*p.p.*), 80⅓ (*o.a.*)×24½×3⅔ (*mm.*), 6¾ (*max.*) feet.
Guns:	1—40 mm. AA., 1—20 mm. AA.
Tubes:	4—21 inch
Machinery:	2 Napier Deltic Turboblown diesel engines. 2 shafts. B.H.P.: 6,200=45 kts.
Radius:	450 miles at 40 kts., 600 miles at 25 kts.
Complement:	18 to 22

Notes

All based on the prototype "Nasty." Built and supplied by A/S Westermoen Batbyggeri og Mek., Verksted, Mandal. The first boat, *Tjeld*, was commissioned in June 1960, and the last boat of the first group of twelve in 1962.

New Construction

Under the new five year programme, eight more motor torpedo boats of the improved "Nasty" design are to be built.



NASTY

1958, *courtesy Boat Services Ltd. A/S. Builders*

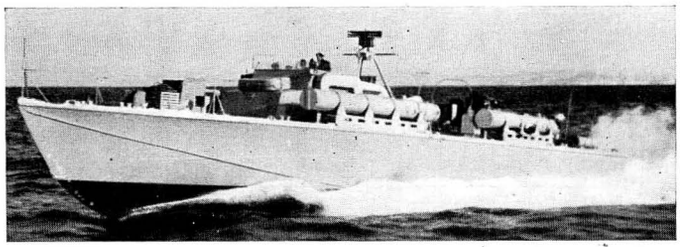
1 "Nasty" Type

NASTY

Displacement:	63.8 tons *light*, 69 tons *standard* operational (74.4 tons *loaded*)
Dimensions:	80½ (*o.a.*)×24½×6¾ feet
Guns:	2—40 mm. A.A. Bofors
Tubes:	4—21 inch
Machinery:	2 Napier Deltic diesels. B.H.P.: 5,000=43 kts.
Complement:	22

Notes

A new type of motor torpedo boat developed as an experimental and entirely private venture by a Norwegian company, Boat Services, Ltd., A/S, and built by A/S Westermoln Batbyggeri og Mek. Verksted, Mandal. She has been taken over by the Royal Norwegian Navy. Constructed of mahogany, with keel and frames of laminated ash and oak. Engines, spares and stores were supplied from Great Britain.



RAPP

1955, *R.No.N Official*

6 "Rapp" Class

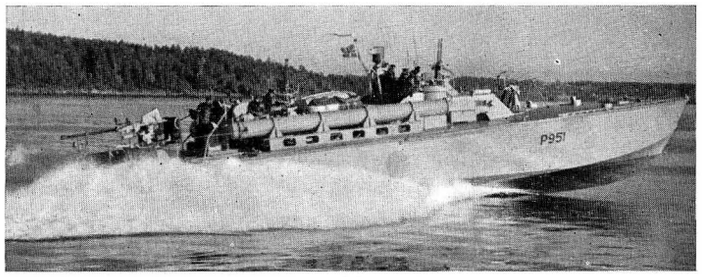
KJAPP P 354
KVIKK P 353
RAPP P 351
RASK P 352
SNAR P 355
SNÖGG P 356

Displacement:	72 tons *standard*
Dimensions:	87×23×5 feet
Guns:	1—40 mm., 1—20 mm. AA.
Tubes:	4—21 inch
Machinery:	4 Packard petrol engines. 2 shafts. B.H.P.: 4,800=32 kts. (sea), 41 kts. (*max.*)
Complement:	18

Notes

Built by A/S Westermoen Batbyggeri, Mandal. Of wooden hull construction. *Rapp*, the prototype, was laid down in Aug. 1951, launched on 7 May 1952 and completed on 18 Nov. 1952. Five others of the same type were laid down, launched and completed between 1953 and 1956. Pennant Nos. above.

Motor Torpedo Boats—*continued*



SILD — *Added* 1962, *Royal Norwegian Navy, Official*

5 Elco Class (Ex-U.S. PT Type)

HAI P 956
HVAL P 958
LAKS (*ex-Hauk*) P 957
SILD P 951
SPRINGER P 955

Displacement:	45 tons *standard* (55 tons *full load*)
Dimensions:	80×24×5¼ feet
Guns:	1—40 mm., 1—20 mm., 4—12·7 mm.
Tubes:	2—21 inch
Machinery:	3 Packard petrol engines. 3 shafts. B.H.P.: 4,500=43 kts.
Complement:	15

Notes

Built in U.S.A. in 1945. All received from U.S.A. in 1951 under MDAP Programme. All Elco boats. Ex-PT 603, 604, 606, 610, 612. *Hvass, Snogg, Hauk* and *Snar* were renamed *Delfin, Knurr, Laks* and *Lyr*, respectively, on 15 July 1955. Pennant Nos. above.

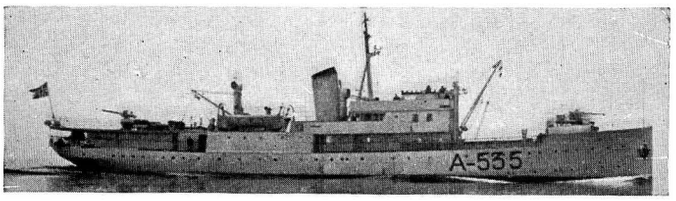
Recent Disposals

Of five sister boats, *Skrei*, P 952, was scrapped in 1960, *Delfin* (ex-*Hvass*), P 959, *Knurr* (ex-*Snogg*), P 954, and *Sel*, P 950, were removed from the list on 1 Dec. 1961, and *Lyr* (ex-*Snar*), P 952, was removed on 1 Mar. 1962, it is officially stated.

The seven remaining motor torpedo boats of the ex-British Fairmile "D" Type, *Falk* (ex-*MTB* 701), *Lom* (ex-*MTB* 719), *Ravn* (ex-*MTB* 720), *Skarv* (ex-*MTB* 721), *Stegg* (ex-*MTB* 722), *Teist* (ex-*MTB* 723) and *Tjeld* (ex-*MTB* 716), were stricken from the Navy List in 1959. Their sister boat, *Jo* (ex-*MTB* 713), was scrapped in 1958.

The three motor launches of the ex-American SC type, former United States submarine chasers, *Hessa* (ex-*SC* 683), *Hitra* (ex-*SC* 718) and *Vigra* (ex-*SC* 1061), were officially stricken from the Norwegian Navy List in 1959.

DEPOT SHIPS



VALKYRIEN — 1954 *R.No.N., Official*

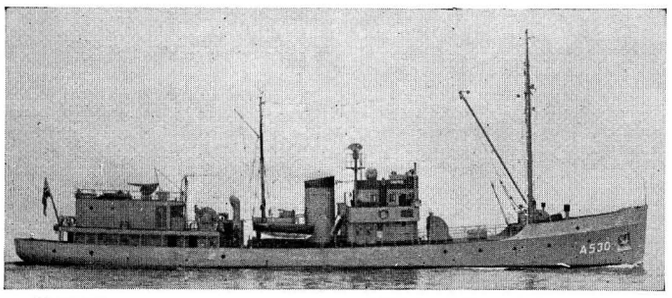
1 Ex-Freighter Type (for Motor Torpedo Boats)

VALKYRIEN

Displacement:	*ca* 1,500 tons *standard* (official estimate)
Measurement:	1,069 tons *gross*
Dimensions:	221½ (*o.a.*)×31¾×16½ feet
Guns:	1—3 inch, 3—40 mm. AA.
Machinery:	Triple expansion. 1 shaft. Oil burning. I.H.P.: 1,215= 12 kts.
Oil fuel:	93 tons
Complement:	77

Notes

Built by Burmeister & Wain, Copenhagen. Laid down in 1911. Launched on 10 Jan. 1912. Formerly a regular coastal passenger, mail and freight carrier for a commercial line. Acquired by the Royal Norwegian Navy and converted into a Depot Ship for Motor Torpedo Boats in 1952-53 by Berger Mek. Verksted. Pennant No. A 535.



SARPEN — 1956, *Royal Norwegian Navy, Official*

1 Ex-German Type (for Submarines)

SARPEN (ex-German *Königsau*)

Displacement:	512 tons *standard* (591 tons *full load*) revised official estimate
Measurement:	372·8 tons *gross*
Dimensions:	156×25½×10 feet
Guns:	3—20 mm. AA.
Machinery:	2 Krupp diesels B.H.P.: 2,100=16 kts.
Oil fuel:	33 tons
Complement:	42

Notes

Former German tender. Handed over on 19 Apr. 1947. Depot ship for submarines. Pennant No. is now A 530.

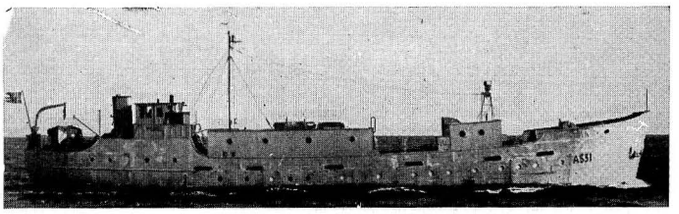
ICEBREAKER

1 Projected

Notes

A new naval icebreaker is planned under the new construction programme, but she is not being proceeded with for the time being.

ASDIC TRAINING SHIP



PINGVIN — 1955, *R.No.N., Official*

1 Ex-German Type

PINGVIN (*ex-Draug*, ex-German *Pommern*)

Displacement:	201 tons
Dimensions:	115×21×7 feet
Machinery:	1 Deutsche Werke. I.H.P.: 200
Complement:	14

Notes

Former German ship. Renamed *Pingvin* on 1 Jan. 1956 when her former name *Draug* was selected for one of the frigates taken over from Canada. Pennant No. A 531.

Recent Disposals

The battle damage repair ship of the converted American tank landing ship type, *Ellida* (ex-U.S.S. *ARB* 13, ex-U.S.S. *LST* 50), was returned to the U.S. Navy on 1 July 1960. and transferred to the Royal Hellenic Navy on 16 Sep. 1960 and renamed *Sakipis*.

The fishery protection vessels *Nordkapp* and *Senja* were stricken from the Navy List in 1956 and sold for use as fishing vessels.

CONTROLLED MINELAYERS

Coastal Artillery Type

BORGEN

Displacement:	282 tons *standard*
Dimensions:	94½ (*pp.*), 102½ (*o.a.*)×26½×11 feet
Machinery:	2 General Motors diesels. 2 Vogt-Schneider propellers. B.H.P.: 330=9 kts.

Notes

Borgen was launched on 29 Apr. 1960. Norway also has one old coastal artillery minelayer for controlled mines. These are part of the Navy.

LANDING CRAFT

1 Ex-U.S. LCU Type

LCU 1478

Displacement:	200 tons *light* (360 tons *full load*)
Dimensions:	115½ (*w.l.*), 119 (*o.a.*)×35×6 feet
Guns:	2—20 mm. AA.
Machinery:	3 diesels. 3 shafts. B.H.P.: 675=12 kts.

Notes

Formerly a United States utility landing craft of the post-war LCU type. Completed in 1953. Transferred from the United States to the Royal Norwegian Navy under the Mutual Defense Assistance Program. She was to have been converted into a minelayer for special mine warfare duties, it was officially stated, but this plan has been abandoned.

OCEAN SURVEY SHIP

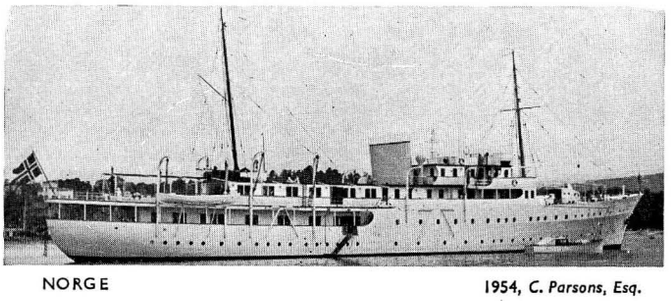
New Construction

Dimensions:	125½ (*o.a.*), 111½ (*pp.*)×25×13 feet
Machinery:	Diesel engine, Norwegian type. B.H.P.: 600=11 kts.

Notes

Ocean survey ship to be constructed for the Norwegian Defence Research Institute with United States financing (announced 22 Apr. 1959). The above are preliminary details officially furnished in Aug. 1959 by the Royal Norwegian Navy. Builders: Örens mek. Verksted, Trondheim, Norway. Official specifications include: "Steel hull, solid welded, blunt nose, cruiser stern."

ROYAL YACHT



NORGE — 1954, *C. Parsons, Esq.*

1 Ex-British Escort Type

NORGE (*ex-Philante*)

Measurement:	1,686 tons (*Thames* yacht measurement)
Dimensions:	250½ (*pp.*), 263 (*o.a.*)×28×15½ feet
Machinery:	8-cyl. diesels. 2 shafts. B.H.P.: 3,000=17 kts.

Notes

Built by Camper & Nicholson's Ltd., Gosport, England. Launched on 17 Feb. 1937. Constructed to the order of Mr T. O. M. Sopwith to act as escort and store vessel for the yachts *Endeavour I* and *Endeavour II*. Served in the British Navy as an anti-submarine escort vessel during the Second World War, after which she was purchased by the Norwegian people for King Haakon at a cost of nearly £250,000 and reconditioned as a Royal Yacht at Southampton. Can accommodate abou 50 people in addition to the crew. Pennant No. A 533.

PAKISTAN

Administration

Commander-in-Chief, Pakistan Navy, and Chief of the Naval Staff:
Vice-Admiral A. R. Khan, H.Q.A., P.N.

Deputy Chief of Naval Staff (Operations):
Captain S. B. Salimi, P.N.

Commodore Commanding P.N. Flotilla:
Captain S. A. Rauf, P.N.

Naval Adviser to the Pakistan High Commission, London:
Commander A. Hanif, P.N.

Personnel

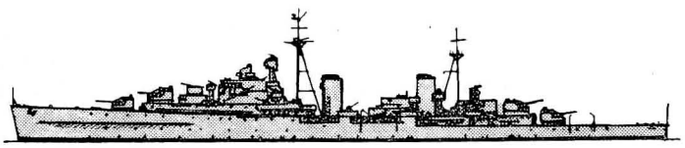
1962: 7,700 (700 officers; 7,000 ratings)

Mercantile Marine

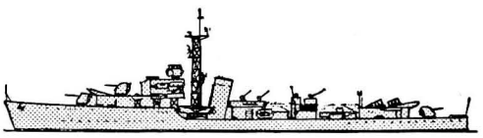
Lloyd's Register of Shipping:
79 vessels of 288,320 tons *gross*

Silhouettes

Scale : 150 ft. = 1 inch.



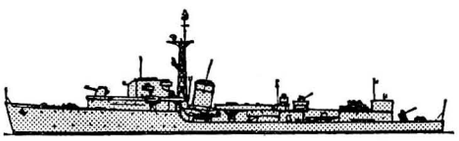
BABUR



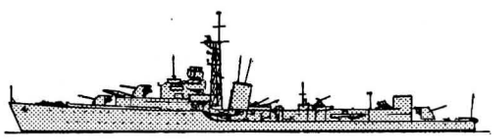
SHAH JAHAN



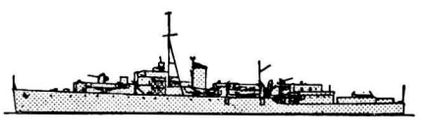
BADR, KHAIBAR



TIPPU SULTAN, TUGHRIL

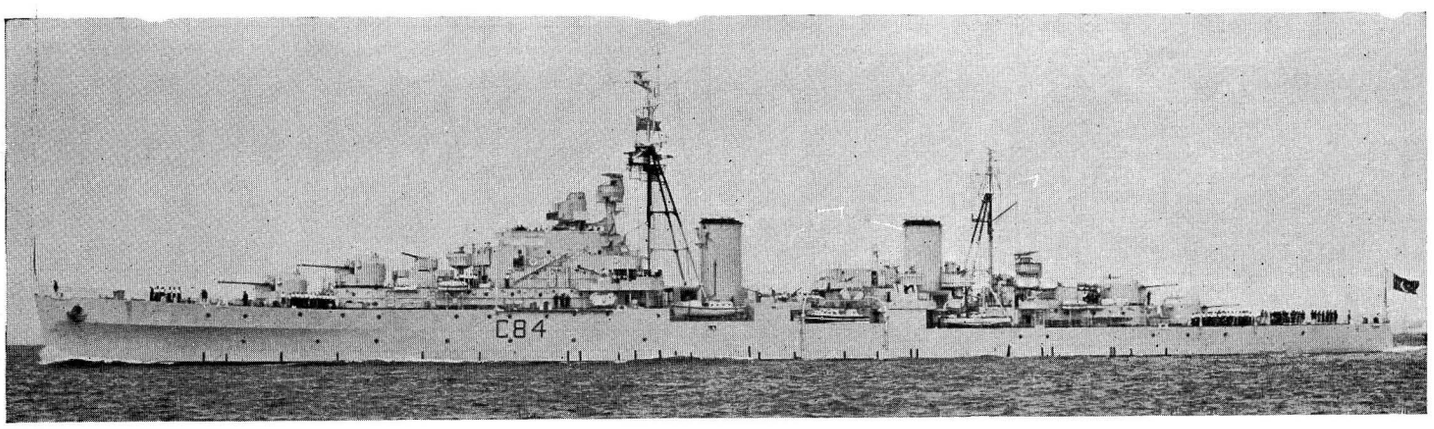


ALAMGIR, JAHANGIR



ZULFIQUAR

LIGHT CRUISER (Cadet Training Ship)



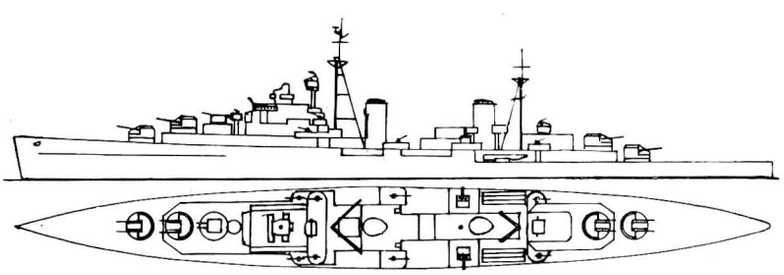
BABUR

1957, *Wright & Logan*

1 Improved "Dido" Class

BABUR (ex-H.M.S *Diadem*)

Pennant No.:	C 84
Builders and Engineers:	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn-on-Tyne
Laid down:	15 Nov. 1939
Launched:	26 Aug. 1942
Completed:	6 Jan. 1944



Displacement:	5,900 tons *standard* (7,560 tons *full load*)
Dimensions:	Length: 512 feet (*o.a.*). Beam: 52 feet. Draught: 15 feet (*mean*), 18½ (*max.*) feet
Guns:	8—5·25 inch AA., 14—40 mm. AA, 4—3 pdr.
Tubes:	6—21 inch (tripled)
Armour:	2 inch side, 2 inch turrets
Machinery:	Parsons single reduction geared turbines. 4 shafts. S.H.P.: 62,000= 32 kts.
Boilers:	4 Admiralty 3-drum type
Complement:	588 (peace)

General Notes
Former British anti-aircraft light cruiser built under the Second World War estimates. The Admiralty announced on 29 Feb. 1956 the sale of this ship to Pakistan. Refitted at H.M. Dockyard, Portsmouth in 1957, with new radar, two whip aerials on bridge, etc., revised secondary armament. Officially turned over from the Royal Navy to the Pakistan Navy and renamed *Babur* at Portsmouth on 5 July, 1957.

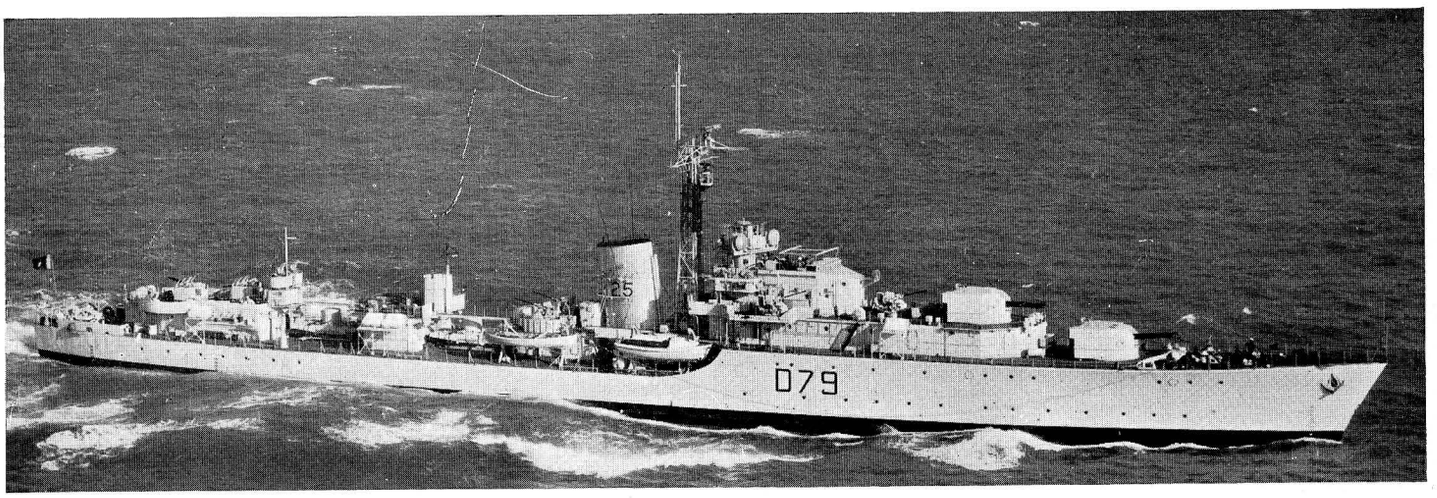
Conversion Notes
This ship was converted into a cadet training ship in 1961.

Class Notes
Originally a sister ship of *Royalist* in the Royal New Zealand Navy.

Nomenclature Notes
Renamed after Babur, the founder of the great Mogul Empire. (*Diadem* means the emblem of sovereignty.)

Note to Drawing
Port elevation and plan. Drawn in 1962. Scale: 128 feet = 1 inch.

DESTROYERS



KHAIBAR

1957, *Skyfotos*

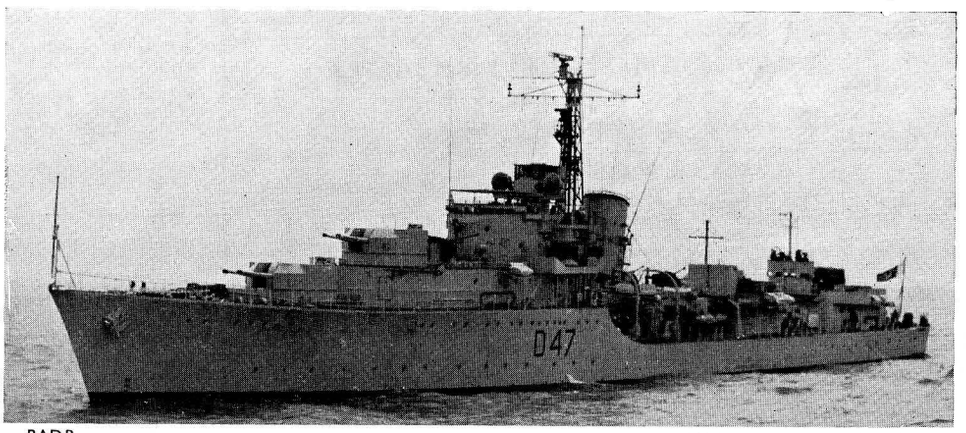
2 " Battle " Class

BADR (ex-H.M.S. *Gabbard*)
KHAIBAR (ex-H.M.S. *Cadiz*)

Name:	*Badr*	*Khaibar*
Pennant No.:	D 47	D 79
Builders:	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne.	Fairfield Shipbuilding & Engineering Co. Ltd., Govan, Glasgow.
Laid down:	2 Feb. 1944	10 May 1943
Launched:	16 Mar. 1945	16 Sep. 1944
Completed:	10 Dec. 1946	12 Apr. 1946

Displacement: 2,325 tons *standard* (3,361 tons *full load*)
Dimensions: 355 (*pp.*), 379 (*o.a.*) × 40¼ × 12¾ (*mean*), 17 (*max.*) feet
Guns: 4—4·5 inch, 10—40 mm. AA.
Tubes: 8—21 inch (quadrupled)
A/S weapons: Squid three-barrelled depth charge mortar
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 50,000 = 35·75 kts. (designed) 31 kts. sea speed
Boilers: 2 Admiralty 3-drum type

Notes
The Admiralty announced on 29 Feb. 1956 the sale of these two destroyers to Pakistan. Refitted and modernised in Great Britain with funds made available by the United States under the Mutual Defense Assistance Program.



BADR

1957, *Pakistan Navy, Official*

Badr was refitted at Palmers Hebburn, Yarrow, handed over to the Pakistan Navy on 24 Jan. 1957, and sailed from Portsmouth for Karachi on 17 Feb. 1957.
Khaibar was refitted at Alex. Stephen & Sons, Ltd., Govan, Glasgow, handed over to the Pakistan Navy on 1 Feb. 1957 and renamed *Khaibar* in commemoration of a famous battle in the history of Islam which Prophet Mohammed won in Arabia over 1,350 years ago.

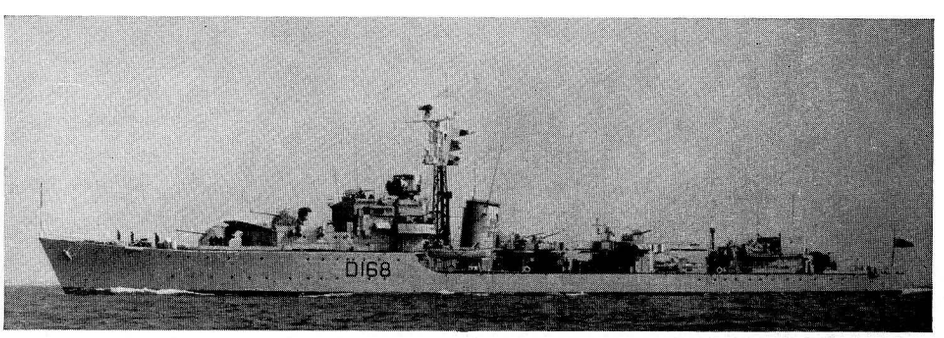
2 " Cr " Class

ALAMGIR (ex-H.M.S. *Creole*)
JAHANGIR (ex-H.M.S. *Crispin*, ex-*Craccher*)

Name:	*Alamgir*	*Jahangir*
Pennant No.:	D 82	D 168
Builders:	J. Samuel White & Co. Ltd., Cowes	J. Samuel White & Co. Ltd., Cowes
Laid down:	3 Aug. 1944	1 Feb. 1944
Launched:	22 Nov. 1945	23 June 1945
Completed:	14 Oct. 1946	10 July 1946

Displacement: 1,730 tons *standard* (2,560 tons *full load*)
Dimensions: 362⅔ × 35⅔ × 10 (*mean*), 16 (*max.*) feet
Guns: 3—4·5 inch, 6—40 mm. AA.
Tubes: 4—21 inch (quadrupled)
A/S weapons: 2 Squid triple barrelled depth charge mortars
Machinery: Parson geared turbines. 2 shafts. S.H.P.: 40,000 = 36·75 kts. (*designed*), 31·25 kts. (sea speed)
Boilers: 2 Admiralty 3-drum type
Complement: 200

Notes
The Admiralty announced on 29 Feb. 1956 the sale of these two destroyers to Pakistan. They were refitted and modernised in Great Britain by John I. Thornycroft & Co. Ltd., Woolston, Southampton, in 1957-58 with funds made available by the United States under the Mutual Defense Assistance Program. They formerly had a W/T cabin in place of "B" gun and a gun in "X" position but during the refit before joining the Pakistan Navy the 4·5 inch gun was restored to "B" position, the 4·5 inch gun in "X" position was suppressed, and two Squids substituted.
Crispin was turned over to the Pakistan Navy at Southampton on 18 March 1958 and renamed *Jahangir*.
Creole was turned over at Southampton in 1958 and renamed *Alamgir*.



JAHANGIR

1958, *Wright & Logan*

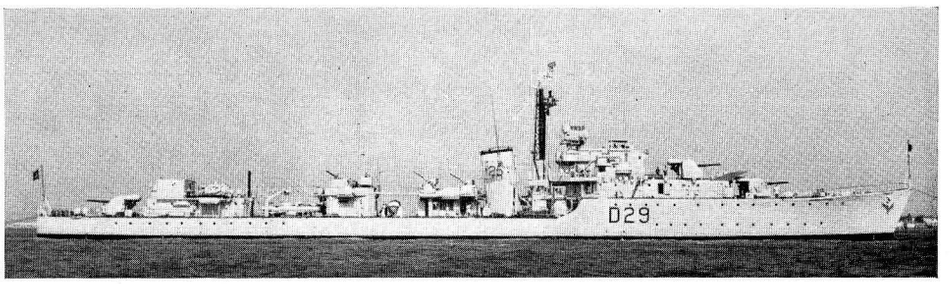
1 " Ch " Class

SHAH JAHAN (ex-H.M.S. *Charity*)

Pennant No.:	D 29
Builders:	John I. Thornycroft & Co. Ltd., Woolston, Southampton
Laid down:	9 July 1943
Launched:	30 Nov. 1944
Completed:	19 Nov. 1945

Displacement: 1,710 tons *standard* (2,545 tons *full load*)
Dimensions: 362⅔ × 35⅔ × 10 (*mean*), 16 (*max.*) feet
Guns: 3—4·5 inch, 6—40 mm. AA.
Tubes: 4—21 inch (quadrupled)
A/S weapons: 2 Squid triple-barrelled depth charge mortars
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 40,000 = 36·75 kts. (*designed*), 31·25 kts. (*sea speed*)
Boilers: 2 Admiralty 3-drum type
Complement: 200

Notes
H.M.S. *Charity* was purchased from the Admiralty by the U.S.A. and, under the Mutual Defense Assistance Program, handed over to the Pakistan Navy on 16 Dec. 1958 at the shipyard of J. Samuel White & Co. Ltd., Cowes, Isle of Wight, who refitted her, and renamed *Shah Jahan* ("Emperor of the Words") after the Fifth Emperor of the Mughal Dynasty who was the ruler at the height of the prosperity of the Mughal Empire.



SHAH JAHAN

1959, *Pakistan Navy, Official*

Recent Disposal
Taimur (ex-H.M.S. *Chivalrous*) was returned to the Royal Navy and scrapped in 1960-61.

FAST ANTI-SUBMARINE FRIGATES (ex-Destroyers)

2 " O " Class
Limited Conversion, Type 16

TIPPU SULTAN (ex-H.M.S. *Onslow*, ex-*Pakenham*)
TUGHRIL (ex-H.M.S. *Onslaught*, ex-*Pathfinder*)

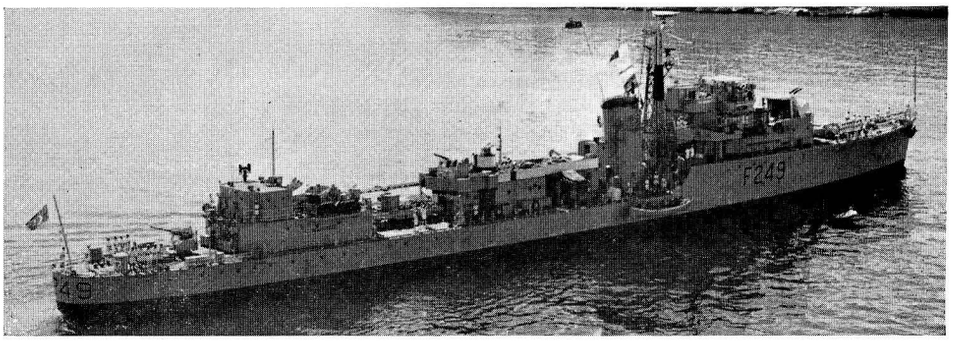
Name	*Tippu Sultan*	*Tughril*
Pennant No.	F 249	F 204
Builders	John Brown & Co. Ltd., Clydebank	Fairfield S.B. & Eng. Co. Ltd., Glasgow
Laid down	1 July 1940	14 Jan. 1941
Launched	31 Mar. 1941	9 Oct. 1941
Completed	8 Oct. 1941	19 June 1942

Displacement: 1,800 tons *standard* (2,300 tons *full load*). Revised figures
Dimensions: 338½ (*pp.*), 345 (*o.a.*) × 35 × 9 (*mean*), 15⅔ (*max.*) feet
Guns: 2—4 inch, 5—40 mm. AA.
Tubes: 4—21 inch
A/S weapons: 2 Squid triple-barrelled depth charge mortars
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts.
Boilers: 2 Admiralty 3-drum type
Complement: 170

Notes

Originally three " O " class destroyers were acquired from Great Britain, *Tippu Sultan* being handed over on 30 Sep. 1949; *Tariq* on 3 Nov. 1949; and *Tughril* on 6 Mar. 1951

An agreement was signed in London between the Admiralty and the United States Navy for the refit and conversion in the United Kingdom of the *Tippu Sultan* and the *Tughril* (announced 29 Apr. 1957) with funds provided under the Mutual Security Act of the United States. Pennant Nos. were changed from D 49 and D 204 to F 249 and F 204 respectively, in 1959.



TIPPU SULTAN (as frigate after conversion) 1960, *A. & J. Pavia*

All three ships were scheduled for conversion into fast anti-submarine frigates. *Tippu Sultan* and *Tughril* were converted at Liverpool by Grayson Rolls & Clover Docks Ltd., Birkenhead, and C. & H. Crighton Ltd., respectively. *Tariq* was not converted. She was handed back to Great Britain at Portsmouth on 10 July 1959 for disposal.

FRIGATE

1 " River " Class (Surveying Vessel)

ZULFIQUAR (ex-*Dhanush*, ex-*Deveron*)

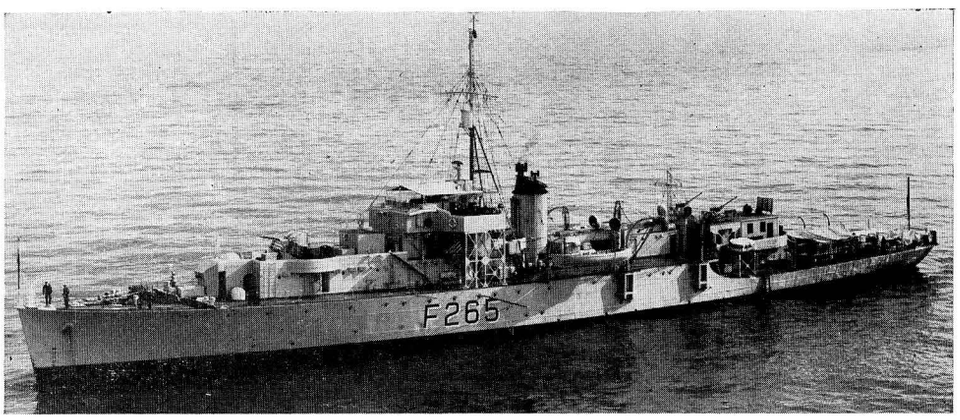
Pennant No.: F 265
Builders: Smith's Dock Co. Ltd., South Bank-on-Tees
Laid down: 16 Apr. 1942
Launched: 12 Oct. 1942
Completed: 2 Mar. 1943
Displacement: 1,370 tons *standard* (2,100 tons *full load*)
Dimensions: 301½ (*o.a.*) × 36⅔ × 12 feet
Guns: 1—4 inch, 2—40 mm. AA.
Machinery: Triple expansion. I.H.P.: 5,500 = 20 kts.
Boilers: 2 Admiralty 3-drum type
Complement: 150

General Notes

Former British " River " class frigate, converted into a surveying ship, with additional charthouse aft. She has strengthened davits and carries survey motor boats. The after 4-inch gun was removed.

Recent Disposals

Sister ship *Shamsher* (ex-*Nadder*) (training ship) of the " River " class was disposed of in 1960.



ZULFIQUAR 1956, *Official*

COASTAL MINESWEEPERS



MUHAFIZ 1956, *P.N. Official*

8 Ex-U.S. MSC (ex-AMS) Type

MAHMOOD (ex-*MSC* 267) **MUHAFIZ** (ex-*AMS* 138) **MUKHTAR** (ex-*MSC* 274)
MUBARAK (ex-*MSC* 262) **MUJAHID** (ex-*MSC* 261) **MUNSIF** (ex-*MSC* 373)

Displacement: 335 tons *light* (375 tons *full load*)
Dimensions: 138 (*pp.*), 144 (*o.a.*) × 27 × 8½ feet
Guns: 2—20 mm.
Machinery: G.M. diesels. 2 shafts. B.H.P.: 880=14 kts.
Complement: 39

Notes

Mukhtar was transferred with *Munsif* (means justice or fair play) which was transferred and renamed at Seattle on 25 June 1959 having been laid down on 24 Feb. 1958 and launched on 20 June 1958 by Bellingham Shipyard Co., Bellingham, Washington. *Muhafiz* was transferred from the United States on 25 Feb. 1955, *Mujahid* in Nov. 1956, *Mahmood* in May 1957, *Mubarak* in 1957. *MSC* 292 and *MSC* 294 are building in U.S., by Petersen Builders Inc., for transfer to Pakistan under MAP.

OILER

ATTOCK

Displacement: 600 tons *standard* (1,255 tons *full load*)
Dimensions: 177½ (*o.a.*) × 32 × 15 (*max.*) feet
Machinery: Direct coupled diesel. Speed 8·5 kts.
Complement: 26

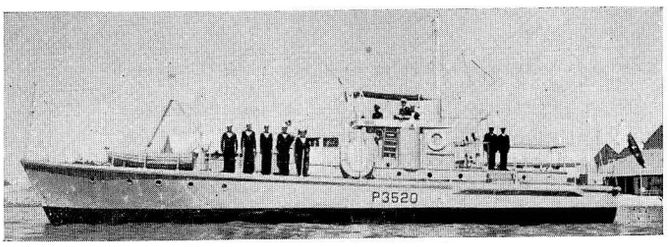
Notes

A harbour oiler of 6,500 barrels capacity built in Trieste, Italy, in 1960 for the Pakistan Navy, under the mutual assistance programme between U.S.A. and Pakistan.

Tanker Notes

The water carrier *Zum Zum* (YW 15) was built in Italy under a United States off-shore procurement of the Mutual Defense Assistance Program.

SEAWARD DEFENCE MOTOR LAUNCHES



SDML 3520 1957, *P.N., Official*

4 Ex-HDML Type

SDML 3517 (ex-*SDML* 1261) **SDML 3519** (ex-*SDML* 1263)
SDML 3518 (ex-*SDML* 1262) **SDML 3520** (ex-*SDML* 1266)

Displacement: 46 tons *standard* (54 tons *full load*)
Dimensions: 72 (*o.a.*) × 15⅔ × 5½ feet
Guns: 1—3 pdr., 1—20 mm. AA.
Machinery: Diesel. 2 shafts. B.H.P.: 320=12 kts.
Complement: 14

Notes

Formerly known as Harbour Defence Motor Launches. Re-numbered in 1951.

TUGS

MADADGAR (ex-U.S.S. *Yuma*, ATF 94)

Displacement: 1,235 tons *standard* (1,675 tons *full load*)
Dimensions: 195 (*w.l.*), 205 (*o.a.*) × 38½ × 12 (*mean*), 15½ (*max.*) feet
Machinery: 4 sets diesels with electric drive. B.H.P.: 3,000=16·5 kts.
Complement: 85

Notes

Ocean-going salvage tug launched on 17 July 1943, and transferred from the United States Navy to the Pakistan Navy on 25 Mar. 1959 under the Mutual Defense Assistance Program. Fitted with powerful pumps and other salvage equipment.

RUSTOM

Dimensions: 105 × 30 × 11 feet
Machinery: Crossley diesel. B.H.P.: 1,000=9·5 kts. (*max.*)
Radius: 1,500 miles endurance
Complement: 21

Notes

General purpose tug for the Pakistan Navy originally ordered from Werf-Zeeland at Hansweert, Netherlands, in Aug. 1952, but after the liquidation of this yard the order was transferred to Worst & Dutmer at Meppel. Launched on 29 Nov. 1955. A photograph of *Rustom* appears in the 1957-58 to 1959-60 editions.

There are also the *Bholu* and *Gama*, harbour tugs built under an " off-shore " order by Costaguta-Voltz.

PARAGUAY

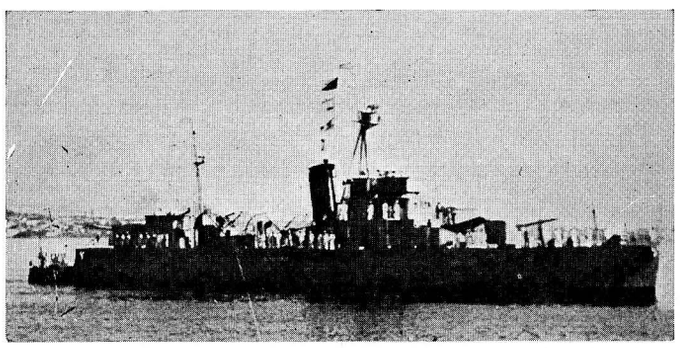
Administration

In Command of the Navy:
Capitan de Navio Don Benito Pereira Saguier.

Personnel

1962: 1,900 officers and ratings.

RIVER GUNBOATS (*Canoneros*)



PARAGUAY — *Added 1957, Official*

2 "Humaita" Class

HUMAITA (ex-*Capitan Cabral*) **PARAGUAY** (ex-*Comodor Meya*)

Displacement:	636 tons *standard* (865 tons *full load*)
Dimensions:	231 × 35 × 5½ feet
Guns:	4—4·7 inch, 4—3 inch AA., 2 M.G.
Mines:	6
Armour:	½" side amidships, ⅓" deck, ¾" C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 3,800=17 kts.
Boilers:	2
Oil fuel:	150 tons
Radius:	1,700 miles at 16 kts.
Complement:	86

Notes
Rated as gunboats but also fitted for minelaying. The armour is of high tensile steel.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
C 2	*Humaita*	Odero, Genoa	Apr. 1929	1930	May 1931
C 1	*Paraguay*	Odero, Genoa	Apr. 1929	1930	May 1931

PATROL LAUNCHES (*Launchas Patrulleras*)

6 Ex-U.S.C.G.C. Type

P 1 **P 2** **P 3** **P 4** **P 5** **P 6**

Displacement:	16 tons
Dimensions:	45½ (*o.a.*) × 13½ × 3½ feet
Guns:	2—20 mm. AA.
Machinery:	2 petrol motors. 2 shafts. H.P.: 190=20 kts.
Complement:	10

Notes
Of wooden construction. Built in the U.S.A. in 1944. Acquired from the U.S. Coast Guard in 1944. Ex-U.S.C.G.C. 20417, 20418 ,20419, 20421, 21422, 20423.

RIVER PATROL BOATS (*Avisos de Guerra*)

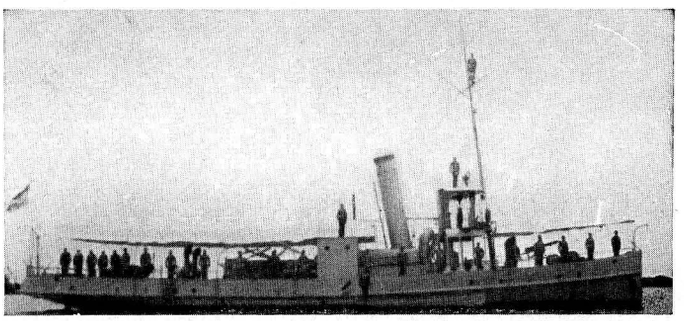
CORONEL MARTINEZ

Displacement:	80 tons
Dimensions:	71½ × 18 × 8½ feet
Guns:	1—3 inch, 2—37 mm.
Machinery:	I.H.P.: 150=6·5 kts.

Notes
Medium type river patrol boat and general utility craft. Pennant No.: A 2

PARAGUAY—*continued*

River Patrol Boats—*continued*



CAPITAN CABRAL — 1954, *Official*

1 Tug Type

CAPITAN CABRAL (ex-*Adolfo Riquelme*)

Displacement:	180 tons *standard* (206 tons *full load*)
Dimensions:	98½ (*pp.*), 107¼ (*o.a.*) × 23½ × 9¾ feet
Guns:	1—3 inch Vickers, 2—37 mm. Vickers, 4 M.G.
Machinery:	Triple expansion. 1 shaft. I.H.P.: 300=9 kts.
Complement:	47

Notes
Former tug. Built by Werf-Conrad, Haarlem. Launched in 1907 Of wooden construction Pennant No.: A 1.

TENIENTE HERREROS

Displacement:	41 tons
Dimensions:	63½ × 11 × 6¾ feet
Guns:	4 M.G.
Machinery:	I.H.P.: 300=5·5 kts.

Notes
Small type river patrol boat. Built in the Netherlands in 1908. Pennant No.: A 3.

PANAMA

Base

Under the 1955 Treaty United States forces occupied the base at Rio Hato.

Mercantile Marine

Lloyd's Register of Shipping: 601 ships of 4,049,377 tons *gross*

COAST GUARD PATROL VESSELS

2 U.S. Type

Displacement:	35 tons
Dimensions:	69 × 14 × 5 feet
Guns:	1 M.G.
Machinery:	H.P.: 400=13 kts.
Complement:	10

Notes
Two small craft (replacing *YP* 162, 539, formerly on loan) purchased from the U.S. Government in 1947.

Two coast guard utility boats were transferred to Panama by the U.S.A. at the U.S. Naval Station, Rodman, Canal Zone, in June 1962.

TUG

Notes
There is a Navy fire-fighting tug. One or two U.S. service boats are also reported.

New Acquisitions
It is reported that the Republic of Panama is to negotiate the purchase of warships.

PERU

Administration

Minister of Marine:
Vice-Admiral Juan Francisco Torres Matos.

Chief of Naval Operations (Comandante General de Marina):
Rear-Admiral Florencio Teixeira.

Commander-in-Chief of the Fleet (Comandante General de la Escuadra):
Rear-Admiral Miguel Chovez Goytizolà.

Chief of the General Staff of the Navy (Jefe del Estado Mayor General de Marina):
Rear-Admiral Carlos Monge Gordillo.

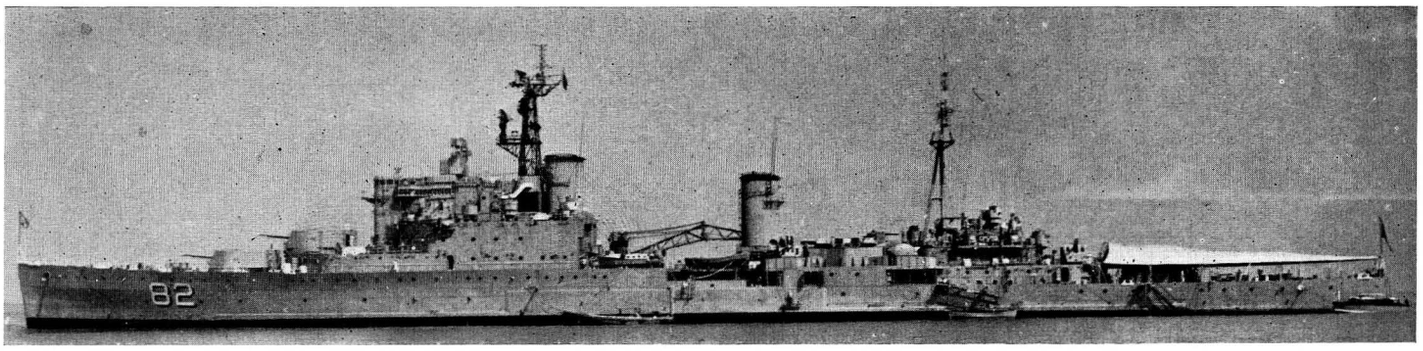
Personnel

1962: 6,640 (600 officers, 6,040 men)

Mercantile Marine

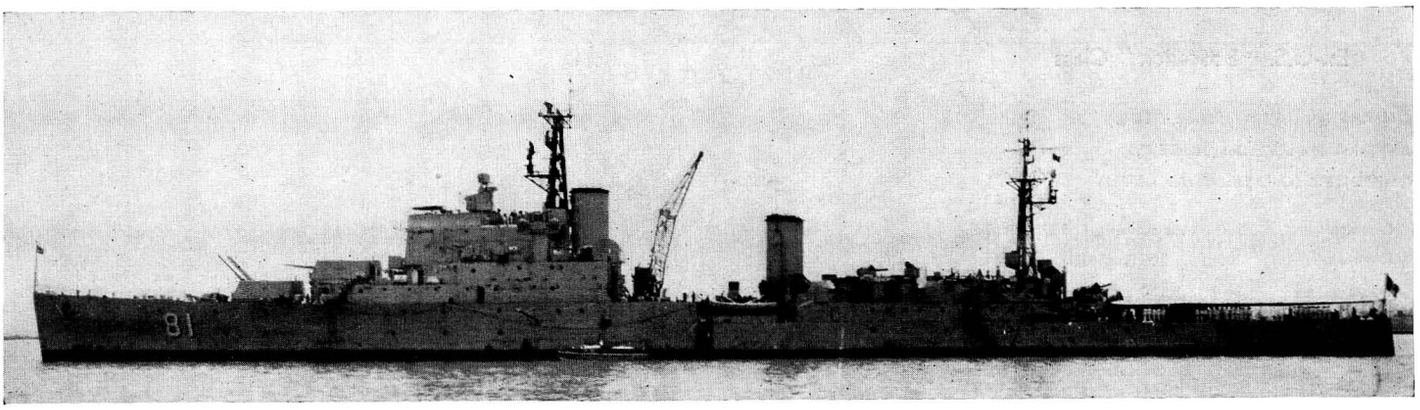
Lloyd's Register of Shipping:
61 vessels of 135,935 tons *gross*

CRUISERS



CORONEL BOLOGNESI

1962, *Peruvian Navy, Official*



ALMIRANTE GRAU

1961, *Peruvian Navy, Official*

2 " Almirante Grau " Class

ALMIRANTE GRAU (ex-H.M.S. *Newfoundland*)
CORONEL BOLOGNESI (ex-H.M.S. *Ceylon*)

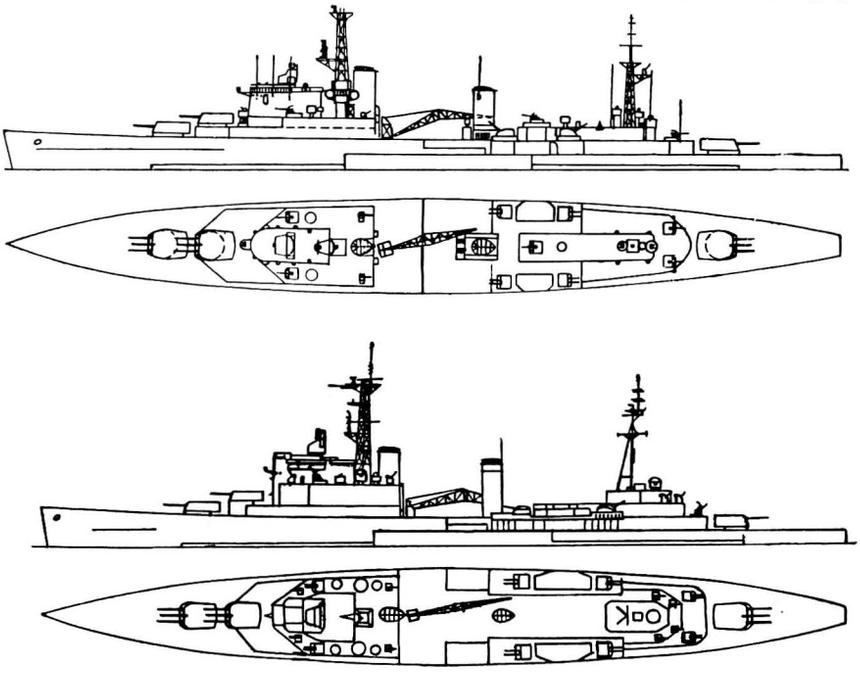
Name:	*Almirante Grau*	*Coronel Bolognesi*
Pennant No.:	81	82
Builders:	Swan, Hunter & Wigham Richardson, Ltd., Wallsend - on - Tyne	Alexander Stephen & Sons, Ltd., Govan, Glasgow
Engineers:	The Wallsend Slipway & Engineering Co. Ltd., Wallsend - on - Tyne	Alexander Stephen & Sons, Ltd., Govan, Glasgow
Laid down:	9 Nov. 1939	27 Apr. 1939
Launched:	19 Dec. 1941	30 July 1942
Completed:	13 July 1943	31 Dec. 1942

Displacement:	*Coronel Bolognesi*: 8,781 tons *standard* (11,110 tons *full load*) *Almirante Grau*: 8,800 tons *standard* (11,090 tons *full load*)
Dimensions:	Length: 549 (*w.l.*), 555½ (*o.a.*) feet. Beam: 62 feet. Draught: 16 ½ (*mean*), 20½ (*max.*) feet
Guns:	9—6 inch, 8—4 inch AA., 12—40 mm. AA. (*Coronel Bolognesi* 18—40 mm.)
Tubes:	Removed
Armour:	4" side, 4" C.T., 2" turrets, 2" deck
Machinery	Parsons single-reduction geared turbines. 4 shafts. S.H.P.: 72,500= 31·5 kts.
Boilers:	4 Admiralty 3-drum type
Oil fuel:	1,620 tons
Radius:	6,000 miles at 13 kts.
Complement:	*Coronel Bolognesi*, 766, *Almirante Grau*, 808 (peace); 950 (war)

General Notes
Former British destroyers of the " Ceylon " class. The designed displacement was 8,000 tons. These ships are a modification of original *Fiji* design, one 6-inch turret having been suppressed, and the number of light AA. guns augmented.

Reconstruction Notes
Almirante Grau (ex-*Newfoundland*) was reconstructed in 1951-53 at H.M. Dockyard, Devonport, with two lattice masts, new bridge and improved AA. armament; her torpedo tubes being removed.
Coronel Bolognesi (ex-*Ceylon*) was refitted with lattice foremast and covered modified bridge in 1955-56, and her torpedo tubes were removed.

Gunnery Notes
The 4 inch guns of *Coronel Bolognesi* (ex-*Ceylon*) are radar-controlled.



Torpedo Notes
These ships originally mounted 6—21 inch torpedo tubes.

Photograph Notes
A starboard quarter view of *Ceylon* and a port bow view of *Newfoundland* appear in the 1957-58 (Diamond Jubilee) edition. A port bow view of *Coronel Bolognesi* appears in the 1960-61 and 1961-62 editions.

Appearance Notes
Almirante Grau (ex-*Newfoundland*) has new H.A. director mounted on either side of bridge. *Coronel Bolognesi* (ex-*Ceylon*) was refitted with a lattice foremast and a tripod mainmast, whereas *Newfoundland* was reconstructed with two lattice masts.

Notes to Upper Drawing
Port elevation and plan of *Almirante Grau* (ex-*Newfoundland*). Scale: 128 feet = 1 inch.

Notes to Lower Drawing
Port elevation and plan of *Coronel Bolognesi* (ex-*Ceylon*). Scale: 128 feet = 1 inch.

Transfer Notes
The *Newfoundland* (incorporated in the Peruvian Navy on 19 Dec. 1959) was formally transferred from the British Navy at Portsmouth on 30 Dec. 1959 and renamed *Almirante Grau*, and the *Ceylon* was transferred from the British Navy at Portsmouth on 9 Feb. 1960 and renamed *Coronel Bolognesi*.

DESTROYERS

2 "Villar" Class

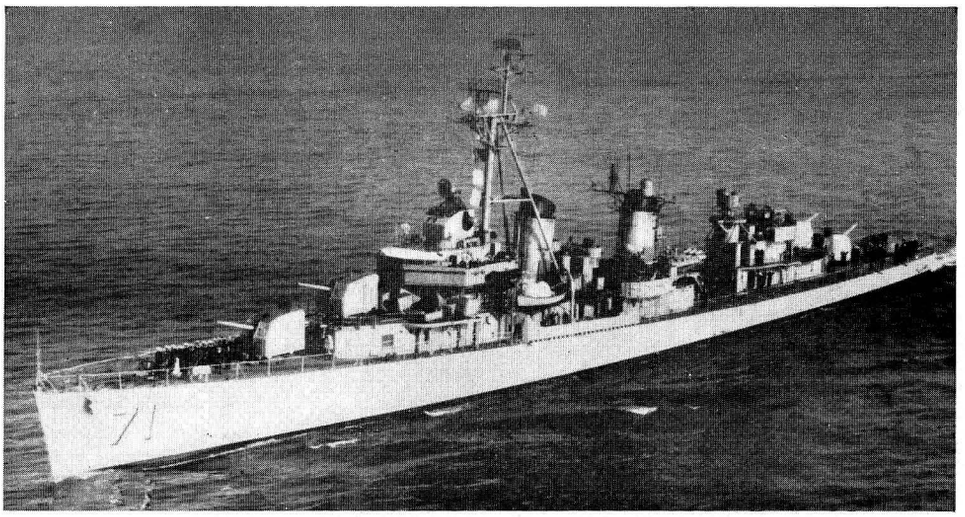
GUISE (ex-U.S.S. *Isherwood*, DD 520)
VILLAR (ex-U.S.S. *Benham*, DD 796)

Name:	*Guise*	*Villar*
Pennant No.:	72	71
Builders:	Bethlehem Steel Co., Staten Island	Bethlehem Steel Co., Staten Island
Launched:	24 Nov. 1942	29 Aug. 1943
Completed:	10 Apr. 1943	20 Dec. 1943

Displacement: 2,100 tons *standard* (3,150 tons *full load*)
Dimensions: 376½ (*o.a.*) × 39⅓ × 12¼ (*mean*), 18 (*max.*) feet
Guns: 4—5 inch, 38 cal. d.p., 6—3 inch, 50 cal. AA. (3 twin mountings)
Tubes: 5—21 inch (quintupled)
A/S weapons: 2 fixed Hedgehogs, 1 D.C. rack, 2 side-launching torpedo racks
Machinery: 2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000 = 35 kts.
Boilers: 4 Babcock & Wilcox
Oil fuel: 650 tons
Radius: 6,000 miles at 15 kts.
Complement: 300 (peace), 350 (war)

General Notes

Former American destroyers. *Villar* (ex-*Benham*) of the Later "Fletcher" class, and *Guise* (ex-*Isherwood*) of the "Fletcher" class were transferred from the United States Navy to the Peruvian Navy at Boston, Massachusetts, on 15, Dec. 1960, and at San Diego, California, on 8 Oct. 1961 respectively. Two more destroyers of the "Fletcher" type are to be transferrred from the U.S.A. in late 1962 and early 1963.



ALMIRANTE VILLAR — 1961, *Peruvian Navy, Official*

DESTROYER ESCORTS

3 "Castilla" Class

Ex-U.S. "Bostwick" Class

AGUIRRE (ex-U.S.S. *Waterman*, *DE* 740)
CASTILLA (ex-U.S.S. *Bangust*, *DE* 739)
RODRIGUEZ (ex-U.S.S. *Weaver*, *DE* 741)

Displacement: 1,240 tons *standard* (1,900 tons *full load*)
Dimensions: 300 (*pp.*), 306 (*o.a.*) × 36⅝ × 12 (*max.*) feet
Guns: 3—3 inch, 50 cal., d.p., 6—40 mm. AA. (in three twin mountings), 10—20 mm. AA.
Tubes: Removed (see *Torpedo Notes*)
A/S weapons: 1 Mark X Ahead Throwing weapon; 8 K-guns; 2 Depth Charge racks aft
Machinery: 4 Diesel-electric sets coupled to 2 shafts. B.H.P.: 6,000=20 kts.
Oil fuel: 322 tons
Radius: 10,500 miles at 12 kts.
Complement: 220

General Notes

Former United States Destroyer Escorts, DE, of the "Bostwick" class. All built by the Western Pipe & Steel Co., San Pedro, California, in 1943. Transferred to Peru on 26 Oct. 1951, under the Mutual Defense Assistance Program. Reconditioned and modernised at Green Cove Springs and Jacksonville, Flor. Actually arrived in Peru on 24 May 1952.

Pennant Notes

Given "DE" instead of "D" pennant numbers in 1959. Pennant numbers were changed from 2, 1 and 3 to 62, 61 and 63, respectively, in 1960.

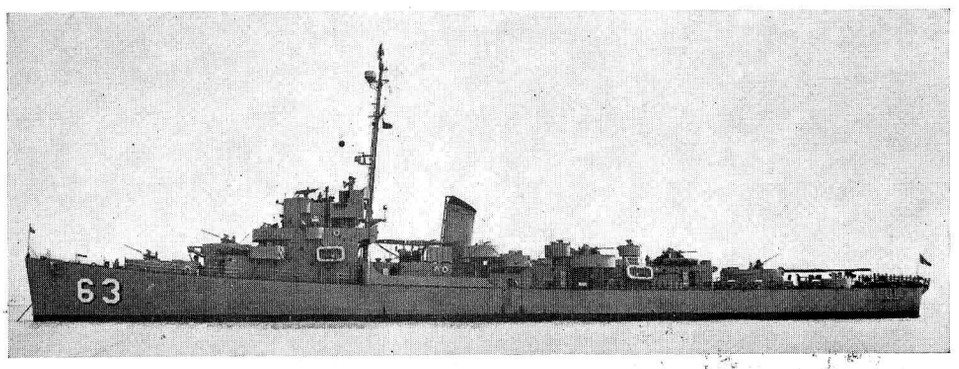
Torpedo Notes

The original three 21 inch torpedo tubes in triple mounting were removed.

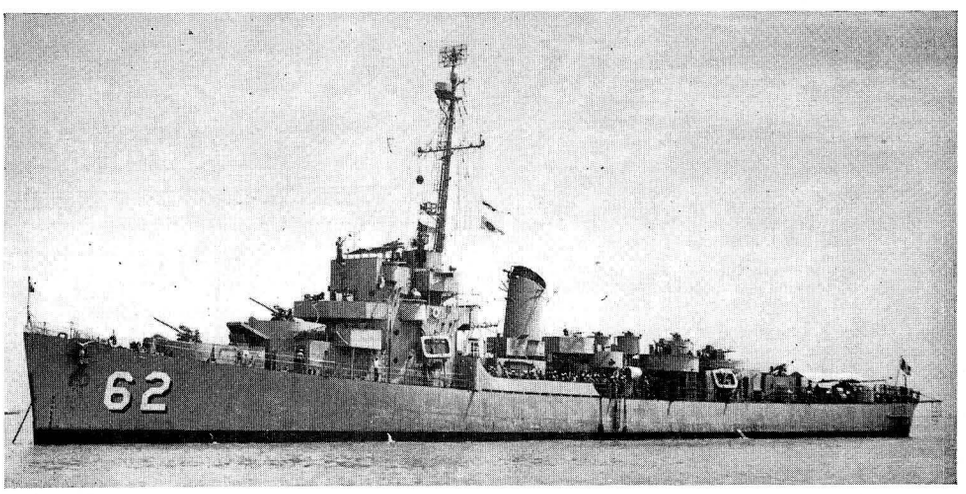
Photograph Notes

A starboard quarter oblique aerial view of *Castilla* appear in the 1953-54 to 1959-60 editions.

Pennant No.	*Name*	*Launched*	*Completed*
62	*Aguirre*	4 July 1943	31 Dec. 1943
61	*Castilla*	6 June 1943	30 Oct. 1943
63	*Rodriguez*	20 June 1943	30 Nov. 1943



RODRIGUEZ — 1960, *Peruvian Navy, Official*



AGUIRRE — 1960, *Peruvian Navy, Official*

PATROL VESSELS (*Corvettes*)

2 "Galvez" Class. Ex-U.S. MSF Type

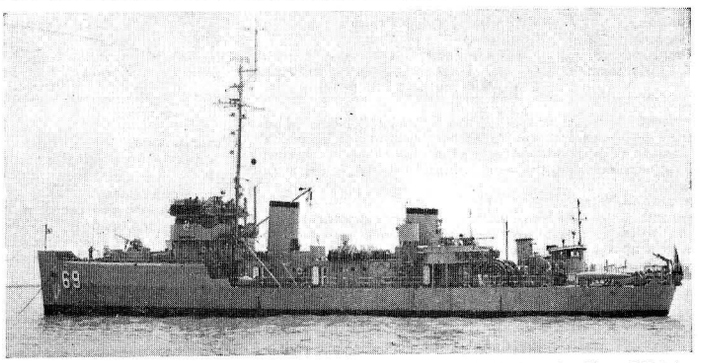
DIEZ CANSECO (ex-U.S.S. *Shoveler*, *MSF* 382) **GALVEZ** (ex-U.S.S. *Ruddy*, *MSF* 380)

Displacement: 890 tons *standard* (1,250 tons *full load*)
Dimensions: 215 (*w.l.*), 221¼ (*o.a.*) × 32¼ × 10¾ (*max.*) feet
Guns: 1—3 inch, 50 cal. d.p., 2—40 mm. AA.
A/S weapons: ASW hedgehog launcher and sonar
Machinery: Diesel, with electric drive. 2 shafts. B.H.P.: 3,532=18 kts.
Complement: 105 (war)

Notes

Former American "Auk" class fleet minesweepers, MSF (ex-AM), of the large steel hulled type. Both built by the Gulf Shipbuilding Corporation. Activated at San Diego, California, and transferred from the U.S. Navy to the Peruvian Navy under the Mutual Defense Assistance Program on 1 Nov. 1960. Minesweeping gear was removed and sonar equipment fitted so that these vessels can be used as patrol craft and submarine chasers. The 3 inch gun director was also removed.

Name	*Pennant No.*	*Laid down*	*Launched*	*Completed*
Diez Canseco	69	1 Apr. 1944	10 Dec. 1944	28 June 1945
Galvez	68	24 Feb. 1944	29 Oct. 1944	28 Apr. 1945



DIEZ CANSECO — 1961, *Peruvian Navy, Official*

FRIGATES

2 " Palacios " Class
Ex-Canadian " River " Class

FERRÉ (ex-H.M.C.S. *Poundmaker*)

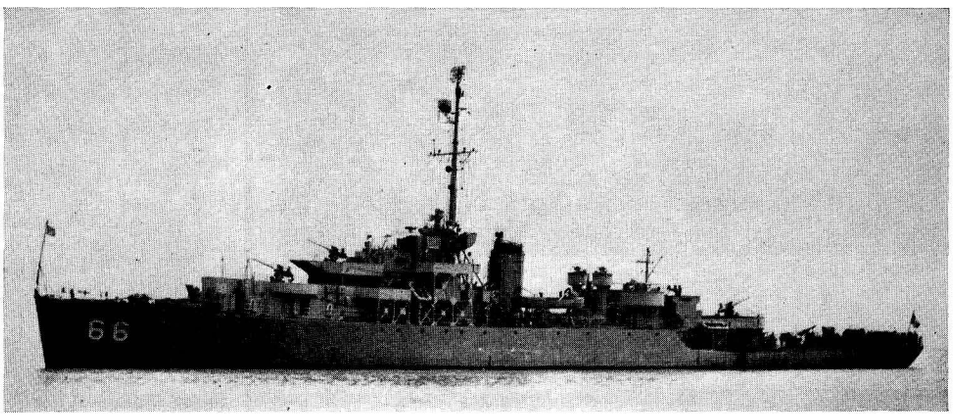
PALACIOS (ex-H.M.C.S. *St P erre*)

Name:	*Ferre*	*Palacios*
Pennant No.:	66	65
Builders:	Canadian Vickers Ltd., Montreal	Quebec Shipbuilding Co Lauzon, P Q.
Launched:	21 Apr. 1944	1 Dec. 1943
Completed:	17 Sep. 1944	22 Aug. 1944

Displacement: 1,445 tons *standard* (2,360 tons *full load*)
Dimensions: 301½ × 36½ × 12 feet
Guns: 3—3 inch d.p., 4—40 mm. AA. (in two twin mounts), 5—20 mm. AA.
A/S weapons: 1 Mk. 10 Ahead Throwing Weapon; 6 K-guns; 2 depth charge racks aft
Machinery: Triple expansion 2 shafts. I.H.P.: 5,500=20 kts.
Boilers: 2, of 3-drum type
Oil fuel: 646 tons
Radius: 9,600 miles at 12 kts.
Complement: 140

General Notes

Former Canadian frigates of the " River " class. Purchased in 1947. Modernised with new guns and fire control equipment at New York Naval Shipyard in 1952.



FERRÉ — 1960, *Peruvian Navy, Official*

Nomenclature Notes

Formerly known as *Teneinte Ferre* and *Teniente Palacios*, respectively. Given " FE " instead of " F " pennant numbers in 1959. Pennant numbers were changed from 3 and 2 to 66 and 65, respectively, in 1960.

Photograph Notes

A starboard bow view of *Palacios* appears in the 1953-54 to 1958-59 editions, and a starboard quarter view of *Ferre* appears in the 1957-58 to 1959-60 editions.

Recent Disposal

The frigate *Galvez* (ex-U.S.S. *Woonsocket*, PF 32) former patrol frigate of the United States "Tacoma" class, was scrapped in 1961.

SUBMARINES

4 " Abtao " Class (U.S. Built)

ABTAO (ex-*Tiburon*) **DOS DE MAYO** (ex-*Lobo*)
ANGAMOS (ex-*Atun*) **IQUIQUE** (ex-*Merlin*)

Displacement: 825 tons *standard*, 1,400 tons *submerged*
Dimensions: 243 (*o.a.*) × 22 (*max.*) × 14 ½ (*max.*) feet
Guns: 1—5 inch, 25 cal.(*Abtao* and *2 de Mayo*)
Torpedo tubes: 4—21 inch (bow), 2—21 inch (aft)
Machinery: 2 General Motors Corporation single acting, two-cycle, non-reversible, type 278A. diesels. 2 shafts. B.H.P.: 2,400 (total)=16 kts. *surface* (*max.*) Electric motors=10 kts. *submerged*
Oil fuel: 45 tons
Radius: 5,000 miles at 10 kts.
Complement: 40

General Notes

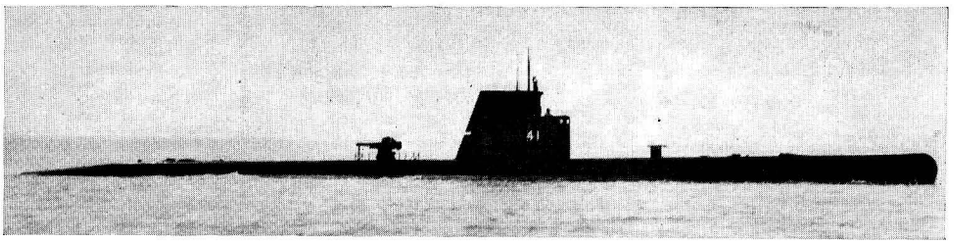
All built by the Electric Boat Division of the General Dynamics Corp., Groton, Connecticut. They are of modified U.S. " Mackerel " class.

Nomenclature Notes

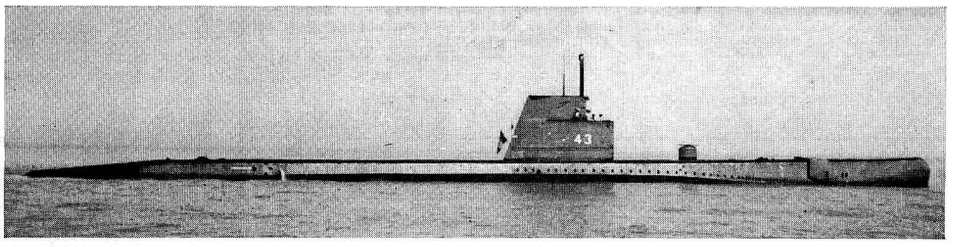
Lobo means wolf, *Tiburon* means shark. The names of all Peruvian submarines were changed in Apr. 1957 by a supreme decree of the President of the Republic of Peru. The names now used are in honour of famous Peruvian naval battles. Pennant numbers were changed from 5, 7, 6 and 8 to *SS* 2, *SS* 3, *SS* 1 and *SS* 4, respectively, in 1959, and were again changed to 42, 43, 41 and 44, respectively, in 1960.

Photograph Notes

A photograph of *Abtao* appears in the 1954-55 to 1959-60 editions, and a photograph of all four submarines of this class together in the 1959-60 edition.



2 DE MAYO — 1960, *Peruvian Navy, Official*



ANGAMOS — 1960, *Peruvian Navy, Official*

No.	*Name*	*Laid down*	*Launched*	*Completed*
42	*Abtao*	12 May 1952	27 Oct. 1953	20 Feb. 1954
43	*Angamos*	27 Oct. 1955	5 Feb. 1957	1 July 1957
41	*2 de Mayo*	12 May 1952	6 Feb. 1954	14 June 1954
44	*Iquique*	27 Oct. 1955	5 Feb. 1957	1 Oct. 1957

Recent Disposals

The four old submarines of the " R " class, *Arica* (ex-*R* 4), *Casma* (ex-*R* 2), *Islay* (ex-*R* 1) and *Pacocha* (ex-*R* 3), (see full particulars and photographs in the 1959-60 and earlier editions), were officially deleted from the list in 1960, and scrapped.

COASTAL MINESWEEPERS

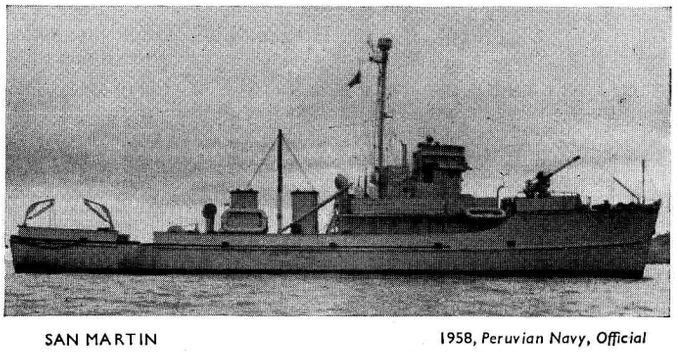
2 "Bondy" Class. Ex-U.S. YMS Type

BONDY (ex-*YMS* 25) **SAN MARTIN** (ex-*YMS* 35)

Displacement: 300 tons *standard* (325 tons *full load*)
Dimensions: 136 × 24½ × 6 feet
Guns: 1—3 inch, 2—20 mm. AA.
Machinery: 2 General Motors diesels. B.H.P.: 1,000=15 kts. (*max.*), economical speed 11 kts.
Fuel: 20 tons
Radius: 1,600 miles at 8 kts.
Complement: 30

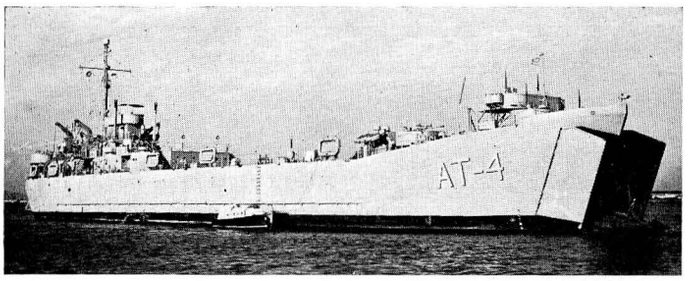
Notes

Former American motor minesweepers of the YMS type. Of wooden construction. *Bondy* was built by Greenport Basin & Construction Co., Long Island, N.Y., and launched on 28 Jan. 1943. *San Martin* was built by C. Hiltebrandt Drydock Co., Kingston, N.Y., and acquired from the U.S.A. in 1947. Formerly known as *Alferez de Fragata Bondy* and *Guardiamarina San Martin*, respectively. Pennant Nos.: 27 and 29, respectively.



SAN MARTIN — 1958, *Peruvian Navy, Official*

TANK LANDING SHIPS



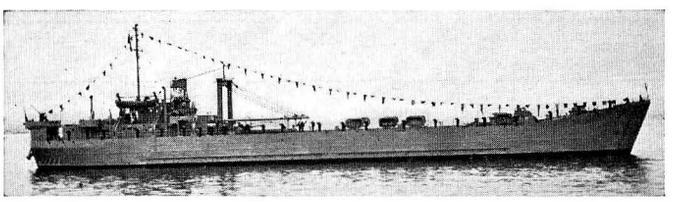
PAITA 1959, *Peruvian Navy, Official*

2 " Paita " Class. Ex-U.S. LST Type

PAITA (ex-U.S.S. *Burnett County*, *LST* 512)

Displacement:	1,653 tons *standard*, 2,366 tons *beaching*, 3,960 tons *trials* 4,080 tons *full load*
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11½ (*mean*), 14½ (*max.*) feet
Guns:	6—40 mm. AA.; 6—20 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,700=11·6 kts. (trials), 10 kts. sea speed
Complement:	13 officers, 106 men

Notes
Former American LST of the 511-1152 Series. Built by Chicago Bridge & Iron Co., Seneca, Illinois. Laid down on 29 July 1943, launched on 3 Dec. 1943 and completed on 8 Jan. 1944. Purchased from the United States by Peru in 1957. Employed as a training ship for the Peruvian Naval Academy. Pennant No.: 35.



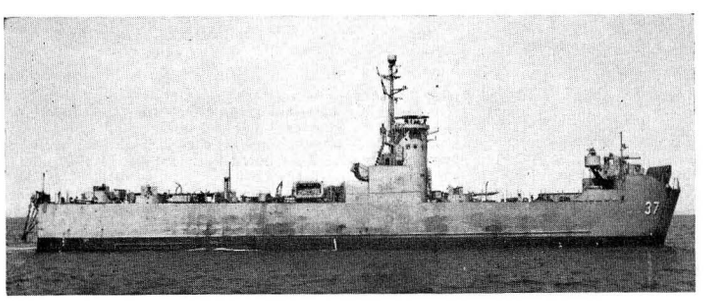
CHIMBOTE *Peruvian Navy, Official*

CHIMBOTE (ex-M/S *Rawhiti*, ex-U.S.S. *LST* 283)

Displacement:	1,625 tons *standard*, 4,050 tons *full load*
Dimensions:	328 (*o.a.*), 315 (*pp.*) × 50 × 14½ (*max.*) feet
Guns:	1—3 inch
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700=10 kts.
Oil fuel:	600 tons (oil tanks): 1,100 tons (ballast tanks)
Radius:	24,000 miles at 9 kts.
Complement:	Accommodation for 16 officers and 130 men

Notes
Former American LST of the 1—510 series. Built by American Bridge Co., Ambridge, Pennsylvania. Laid down on 2 Aug. 1943, launched on 10 Oct. 1943 and completed on 18 Nov. 1943. Sold to Peru by a British firm in 1951. Pennant No. 34.

MEDIUM LANDING SHIPS



ATICO 1960, *Peruvian Navy, Official*

2 " Lomas " Class. Ex-U.S. LSM Type

ATICO (ex-U.S.S. *LSM* 554) **LOMAS** (ex-U.S.S. *LSM* 396)

Displacement:	513 tons *standard* (913 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 7 feet
Guns:	2—40 mm. AA., 4—20 mm. AA.
Machinery:	Diesels. 800 r.p.m. 2 shafts. B.H.P.; 3,600=12 kts.
Oil fuel:	165 tons (oil tanks)
Complement:	Accommodation for 116 (10 officers and 106 men)

Notes
Former American medium landing ships of the LSM type. Both built by Charleston Navy Yard, Charleston, S.C., U.S.A. Sold to Peru and transferred from the United States Navy in 1959.

Name	*Pennant No.*	*Laid down*	*Launched*	*Completed*
Atico	37	3 Mar. 1945	22 Mar. 1945	14 Sep. 1945
Lomas	36	13 Dec. 1944	2 Jan. 1945	23 Mar. 1945

Recent Disposals
The two landing craft of the ex-U.S. LCT type, *BT1* and *BT 2*, were disposed of in 1958.

RIVER GUNBOATS



MARAÑÓN 1962, *Peruvian Navy, Official*



UCAYALI *Added* 1952, *courtesy John I. Thornycroft & Co. Ltd.*

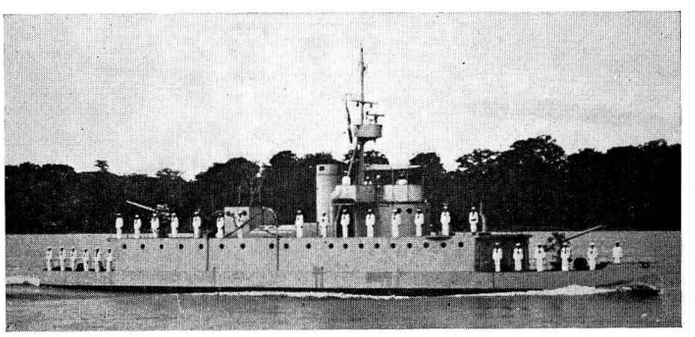
2 " Marañón " Class

MARAÑÓN **UCAYALI**

Displacement	365 tons *full load*
Dimensions:	154¾ (*w.l.*) × 32 × 4 (*max.*) feet
Guns:	2—3 inch, 50 cal., d.p., 7—20 mm. AA. (2 twin, 3 single)
Machinery:	Two sets British Polar Diesel engines. Type M441. B.H.P 800=12 kts. (normal)
Range:	6,000 miles without refuelling
Complement:	40

Notes
Ordered early in 1950. Employed on police duties in Upper Amazon. Specially designed for carrying naval officers and men under tropical conditions. Very shallow draught. Superstructure of aluminium alloy. Mechanical ventilation. Based on Iquitos.

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
13	*Maranon*	John I. Thornycroft & Co. Ltd., Woolston, Southampton	Apr. 1951	July 1951
14	*Ucayali*		7 Mar. 1951	June 1951



AMAZONAS 1959, *Peruvian Navy, Official*

2 " Loreto " Class

AMAZONAS **LORETO**

Displacement:	250 tons *standard*
Dimensions:	145 × 22 × 4 feet
Guns:	2—3 inch, 1—45 mm., 2—20 mm. AA.
Machinery:	Diesel. B.H P.: 750=15 kts.
Complement:	35

Notes
Designed and built by the Electric Boat Co., Groton, Conn. Launched in 1934. Photograph of *Loreto* appears in the 1958-59 edition. Pennant Nos. 11 and 12, respectively.

NAPO

Displacement:	98 tons
Dimensions:	100 (*pp.*). 101½ (*o.a.*) × 18 × 3 feet
Guns:	3—47 mm. (3 pdr.), 2 M.G. AA.
Machinery:	Triple expansion. I.H.P.: 250=12 kts.
Boilers :	Yarrow
Complement:	22

Notes
Built by Yarrow Co. Ltd., Scotstoun, Glasgow Launched in 1920. Of steel construction. Converted from wood to oil fuel burning. In the Upper Amazon Flotilla. Pennant No. 16

AMERICA

Displacement:	240 tons
Dimensions:	133 × 19½ × 4½ feet
Guns:	2—3 pdr., 4—12·7 mm. AA.
Machinery:	Triple expansion. I.H.P : 350=14 kts.
Complement:	26

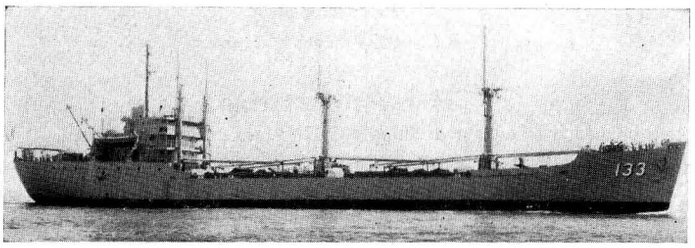
Notes
Built by Tranmere Bay Development Co. Ltd., Birkenhead. Launched and completed in 1904. Of steel construction. Converted from coal to oil fuel burning. In the Upper Amazon Flotilla. Pennant No. 15.

IQUITOS

Displacement:	50 tons
Dimensions:	77 × 12 × 7½ feet
Guns:	2—37 mm., 2—20 mm., 2 M.G. AA.
Machinery:	Triple expansion. Speed=7 kts.

Notes
Built in France. Launched in 1875. Rebuilt in 1896. Refitted in 1936. Converted merchant vessel. Pennant No. 18.

FLEET TRANSPORTS



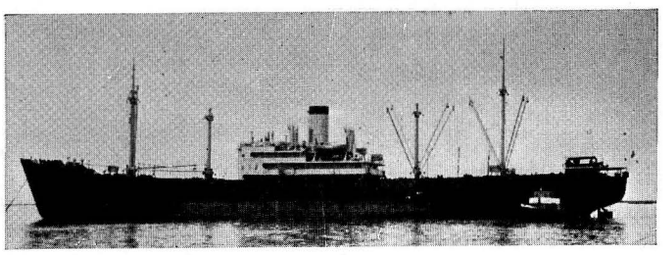
ILO 1962, *Peruvian Navy, Official*

ILO (ex-*Norlindo*)

Displacement:	8,385 tons *full load*
Dimensions:	338½ × 50¼ × 9 feet
Machinery:	Diesels. 1 shaft. B.H.P.:1,700 = 10·5 kts.

Notes

Built at Sturgeon Bay, Wis., U.S.A., by Leathem D. Smith Shipbuilding Co., in 1945. Acquired by the Peruvian Navy from Banham and Boyesen Inc., Norway, in 1959. Pennant No. 33.



CALLAO 1957, *Peruvian Navy, Official*

CALLAO (ex-*Monserrate*)

Displacement:	7,790 tons *full load*
Measurement:	5,578 tons *gross*
Dimensions:	459 × 56 × 22 feet (depth 35 feet)
Machinery:	2 diesel motors. Speed = 14 kts.

Notes

Former Hamburg America liner. Built by Bremen Vulkan Yard, Bremen-Vegesak. Launched in 1938. Seized on 1 Apr. 1941 by the Peruvian Government, after scuttling by the Germans. Employed as a troop transport and cargo carrier. Pennant No. 32.

Recent Disposal

It was officially stated in July 1960 that the other fleet transport of the German type, *Rimac* (ex-*Eten*, ex-*Rhakotis*) has been scrapped.

Floating Dock Notes

The former United States auxiliary floating dry dock *ARD* 8 was transferred to Peru in Feb. 1961: displacement: 5,200 tons; dimensions: 492 feet length, 84 feet beam, 5⅔ to 33¼ feet draught. Pennant No. WY 20.

The former United States floating dock *AFDL* 3, launched in Oct. 1944, was transferred to Peru in July 1959:—displacement: 1,900 tons; dimensions: 288 feet length, 64 feet beam, 8¼ to 31⅓ feet draught. Pennant No. WY 19.

PATROL BOATS



RIO TUMBES 1961, *Peruvian Navy, Official*

4 "Rio" Class. Italian KPL 181 Type

RIO EL SALTO 03
RIO PIURA 04
RIO TUMBES 02
RIO ZARUMILLA 01

Displacement:	37 tons *full load*
Dimensions:	65⅔ × 17 × 3¼ feet
Guns:	2—40 mm.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,200 = 18 kts.
Radius:	1,000 miles at 14 kts.

Notes

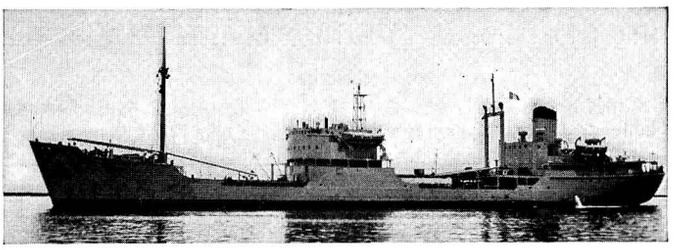
Built by the Kotody Corp., Navaltecnica Internazionale S.p.A., Cantieri Navali Fratelli Benetti, Viaregio, Italy. Ordered in 1959, laid down on 15 July 1959, delivered in May 1960, and entered service on 5 Sep. 1960.

There are also the small patrol craft ex-U.S.S. *YP* 99, ex-U.S.S. *YP* 242 and ex-U.S.S. *YP* 243.

Recent Disposals

Of the six coast guard motor launches of the former United States Coast Guard type, officially rated as *Caza-Submarinos* (submarine chasers), CS-1 and CS-2 were disposed of on 29 May 1958 and 29 May 1959, respectively, and it was officially stated in Mar. 1961 that CS-3, CS-4, CS-5 and CS-6 have also been scrapped.

FLEET OILERS



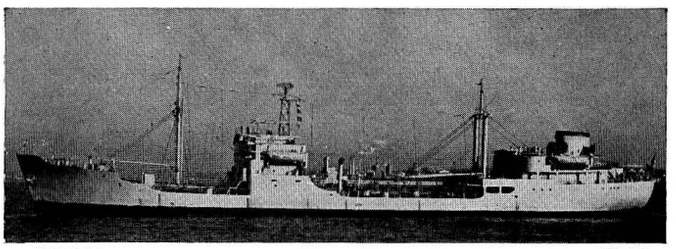
SECHURA 1956, *Peruvian Navy, Official*

2 "Sechura" Class

	SECHURA	ZORRITOS
Displacement:	8,700 tons	
Measurement	4,300 tons *gross*, 6,000 tons *deadweight*	
Dimensions:	385 (*o.a.*), 360 (*w.l.*) × 52 (*breadth moulded*) × 21¼ feet (draft loaded)	
Machinery:	Diesel Engine Type 562 VT-F115, made by Burmeister & Wain, Copenhagen, Denmark. B.H.P.: 2,400 = 12 kts. 13·25 kts. on trials	
Boilers:	2 Scotch with Thornycroft oil burners for cargo tank cleaning	

Notes

Sechura, built by John I. Thornycroft & Co. Ltd., Woolston, Southampton, England, was laid down late in 1952, launched on 12 Nov. 1954 and completed in Feb. 1955. Designed for transferring fuel to warships at sea. *Zorritos*, built by Servicio Industrial de la Marina in the Arsenal Naval del Callao, Peru, was laid down on 8 Oct. 1955, and launched on 8 Oct. 1958. Pennant Nos. 54 and 58, respectively.



TALARA *Official*

TALARA

Displacement:	7 000 tons
Measurement:	4,800 tons *deadweight* (about 35,000 barrels)
Dimensions:	336¼ × 50⅝ × 22½ feet
Machinery:	Diesel Engine Type 562, VT-F115, made by Burmeister B.H.P.: 2,400 = 12 kts.

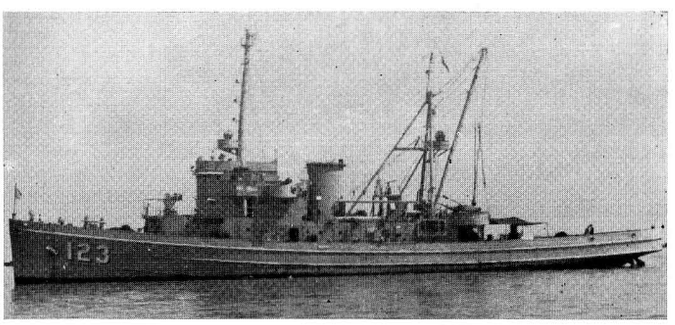
Notes

Built in Denmark to the requirements of Lloyd's Register. Laid down early in 1953 by Burmeister & Wain's Maskin-Og Skibsbygger, Copenhagen. Completed in 1955. Pennant No. 53.

Recent Disposals

It was officially stated in Mar. 1961 that the fleet supply ships and oilers *Cabo Blanco* (ex-*Mariscal Castilla*, ex-*Preserver*) and *Organos* (ex-*Olaya*) of the Canadian type, and the old oiler *Parinas* (ex-*Sjomand*) of the Thornycroft type, had been scrapped.

TUGS



RIOS 1962, *Peruvian Navy, Official*

RIOS (ex-U.S.S. *Pinto*, *ATF* 90)

Displacement:	1,235 tons *standard* (1,675 tons *full load*)
Dimensions:	195 (*w.l.*), 205 (*o.a.*) × 38½ × 12 (*mean*), 15½ (*max.*) feet
Machinery:	4 sets diesels with electric drive. B.H.P.: 3,000 = 16·5 kts.

Notes

Former American fleet ocean tug of the "Apache" class. Launched on 5 Jan. 1943. Transferred to Peru in 1960 and delivered in Jan. 1961. Fitted with powerful pumps and other salvage equipment.

SELENDON (ex-U.S.S. *ATR* 31)

Displacement:	852 tons
Dimensions:	165½ × 33⅓ × 13½ feet
Machinery:	Triple expansion. I.H.P.: 1,600 = 12 kts.

Notes

Built in the U.S.A. in 1942-43. Purchased from the United States in 1947. Of wooden construction. Pennant No. 21. Formerly known as *Condestible Selendon*. A photograph of *Selendon* appears in the 1953-54 to 1961-62 editions.

Ex-**U.S.S. WATEREE**, *ATA* 174

Displacement:	534 tons *standard* (835 tons *full load*)
Dimensions:	133⅜ (*w.l.*), 143 (*o.a.*) × 33⅜ × 13½ feet
Machinery:	General Motors diesel-electric B.H.P.: 1,500 = 13 kts.

Notes

Former United States auxiliary ocean tug of the "Maricopa" class. Built by Levingston S.B.G., Orange, Texas. Laid down on 5 Oct. 1943, launched on 18 Nov., 1943 and completed on 20 July, 1944. Purchased from the U.S.A. in Nov. 1961 under MAP.

Recent Disposals

It was officially stated in Mar. 1961 that the tug *Olaya* (ex-U.S.S. *ATR* 25) had been scrapped.

The submarine salvage vessel *Guardian Rios* was removed from the Navy List on 10 July 1958, it was officially stated.

PHILIPPINES

Administration

Flag Officer in Command, Philippine Navy: Commodore Jose Francisco, P.N.

Ships

Ships' names are prefixed by R.P.S. (Republic of Philippines Ship). Names adopted are geographical locations, mostly provinces.

Personnel

1962: 4,000 officers and men.

Mercantile Marine

Lloyd's Register of Shipping: 124 vessels of 317,299 tons

DESTROYER ESCORTS

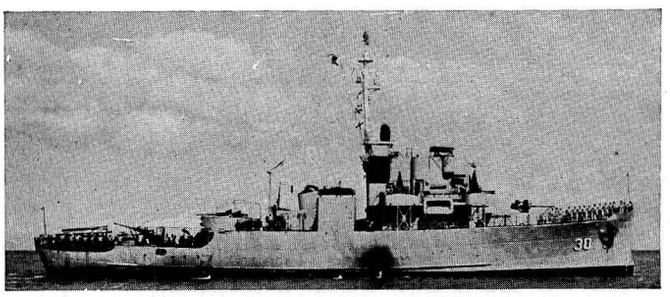
2 New Construction

Displacement:	1,850 tons *standard*
Dimensions:	364 × 36 × 12 feet
Machinery:	2 sets geared turbines. 2 shafts. S.H.P.: 35,000=31 kts.
Boilers:	2
Radius:	6,000 miles cruising range

Notes

The Philippines are reported to have secured two new construction destroyer escort type vessels from Japan with reparations money.

ESCORT VESSELS



LEYTE 1956, *Philippine Navy, Official*

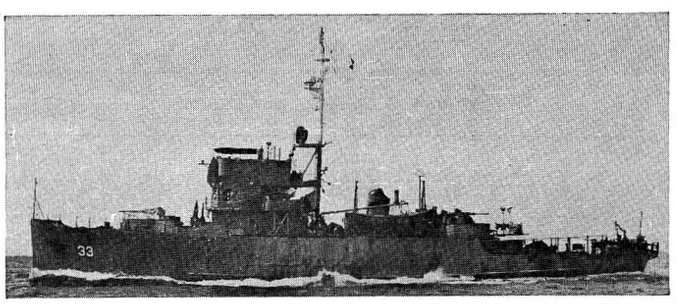
Ex-U.S. PCE Type

CEBU E 28 (ex-*PCE* 881)
ILOILO E 32 (ex-*PCE* 897)
LEYTE E 30 (ex-*PCE* 885)
NEGROS OCCIDENTAL E 29 (ex-*PCE* 884)
PANGASINAN E 31 (ex-*PCE* 891)

Displacement:	850 tons *standard* (903 tons *full load*
Dimensions:	184½ (*o.a.*) × 33 × 9½ feet
Guns:	1—3 inch, 3—40 mm. (E31, 6—40 mm.) AA., 4—20 mm.
Machinery:	Diesel. 2 shafts. B.H.P.: 2,000=16 kts.
Complement:	81

Notes

Former United States escorts. Built in Portland, Oregon, U.S.A., by Albina Eng. & Mach Works (E 28 29, 30) and Willamette Iron & Steel Corp. (E 31, 32). All launched in 1943-44.



SAMAR 1956, *Philippine Navy, Officia*

Ex-U.S. AM Type

SAMAR M 33 (ex-U.S.S. *Project*, *AM* 278)

Displacement:	850 tons *standard* (945 tons *full load*)
Dimensions:	184½ (*o.a.*) × 33 × 9¾
Guns:	1—3 inch, 4—40 mm. AA., 4—20 mm.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,710=14·8 kts.
Complement:	104

Notes

Former U.S. fleet minesweeper. Built by Gulf S.B. Corpn. Launched on 22 Jan. 1944. Steel. Originally a sister ship of *Santa Maria*. No minesweeping gear. Used as a patrol vessel.

COASTAL MINESWEEPERS

Ex-U.S. MSC Type

ZAMBALES M55 (ex-U.S.S. *MSC* 218)
ZAMBOANGA DEL NORTE M 56 (ex-U.S.S. *MSC* 219)

Displacement:	335 tons *standard* (375 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 27 × 8½ feet
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 880=14 kts.
Complement:	50

Notes

Non-magnetic coastal minesweepers of the United States "Bluebird" class. *Zambales* was built by Bellingham Shipyard Co., Washington, laid down in Aug. 1954 and launched on 25 Feb. 1955. Both were transferred under the Mutual Defense Assistance Program and commissioned in the Philippine Navy at Seattle, Wash., on 7 Mar. and 23 Apr. 1956, respectively.

PRESIDENTIAL YACHT

LAPU-LAPU

Measurement:	2,200 tons *gross*
Machinery:	Burmeister & Wain diesels 2 shafts. B.H.P.: 5,000=16·5 kts.

Notes

New Presidential Yacht and escort vessel acquired from Japan under the reparation payment programme. Built at Ishikawajima, Japan. Launched in 1958 and completed in 1959. Reported to be named after the chief who killed Magellan.

COMMAND SHIPS



RAJAH SOLIMAN 1962, *courtesy Mr. W. H. Davis*

Ex-U.S. APD Type

RAJAH SOLIMAN (ex-U.S.S. *Bowers*, *APD* 40, ex-*DE* 637)

Displacement:	1,400 tons *standard* (2,130 tons *full load*)
Dimensions:	300 (*w.l.*), 306 (*o.a.*) × 37 × 12¾ (*max*) feet
Machinery:	General Electric geared turbines with electric drive 2 shafts. S.H.P.: 12,000=23·6 kts.
Boilers	2 Express

Notes

Former United States high speed transport (converted destroyer escort) transferred to Philippines at New Orleans, La. on 21 Apr. 1961 under MAP. To be fitted as a command ship for the Philippine Navy. Pennant No. D 66.

Ex-U.S. AM Type

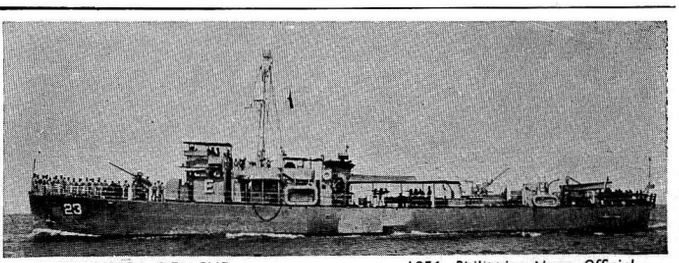
SANTA MARIA (ex-*Pagasa*, ex-*Apo* 21, ex-U.S.S. *Quest*, *AM* 281)

Displacement:	850 tons *standard*, 881-98 tons *normal* (945 tons *full load*)
Dimensions:	184½ (*o.a.*) × 33 × 9¾ feet
Guns:	1—3 inch, 4—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,710=14·8 kts. (trials). Cruising speed: 9 kts., *max.* 14 kts.
Complement:	44

Notes

Former U.S. fleet minesweeper. Built by Gulf S.B. Corpn. Launched on 16 Mar. 1944. Of steel construction. Converted into Presidential Yacht. Cruising range of 5,600 miles and 23 days. A photograph of *Santa Maria* appears in the 1956-57 to 1961-62 editions.

SUBMARINE CHASERS



ZAMBOANGA DEL SUR 1956 *Philippine Navy, Official*

Ex-U.S. PC Type

BATANGAS C 24 (ex-*PC* 1134)
BOHOL C 22 (ex-*PC* 1131)
CAPIZ C 27 (ex-*PC* 1564)
NEGROS ORIENTAL C 26 (ex-*PC* 1563)
NUEVA ECIJA C 25 (ex-*PC* 1241)

Displacement:	330 tons *standard* (450 tons *full load*)
Dimensions:	173¾ (*o.a.*) × 23 × 6 feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm. AA.
Machinery:	2 G.M. 2-stroke diesels. 2 shafts. B.H.P.: 3,600=18 kts.
Complement:	60

Notes

Former United States submarine chasers of steel construction. Built in 1942-1944. Transferred in 1947-48. *Zamboango del Sur* C 23 (ex-*PC* 1133) was stricken from the list of Philippine Navy vessels on 16 Nov. 1956. One PC type grounded and considered beyond economical repair

Ex-U.S. PCS Type

LAGUNA P 12 (ex-*PCS* 1403)
TARLAC P11 (ex-*PCS* 1399, ex-*YMS* 450)

Displacement:	230 tons *standard* (300 tons *full load*)
Dimensions:	136 (*o.a.*) × 24½ × 8½ feet
Guns:	1—3 inch, 1—40 mm., 4—20 mm.
Machinery:	Diesel. B.H.P.: 1,000=14-14·5 kts.
Complement:	42

Notes

Former United States submarine chasers of wooden construction. Built in 1942-1943. Transferred in Jan. 1948. A photograph of *Laguna* appears in the 1956-57 to 1961-62 editions.

PATROL BOATS



ROMBEON — 1962, *courtesy Mr. W. H. Davis*

Ex-U.S. PGM Type

AGUSAN G 61 (ex-*PGM* 39) **ROMBEON** G 63 (ex-*PGM* 41)
CATAN DUANES G 62 (ex-*PGM* 40) **PALAWAN** G 64 (ex-*PGM* 42)

Notes
Four motor gunboats of new construction built by Tacoma Boatbuilding Co., Tacoma, Washington, for transfer under the Mutual Defense Assistance Program. All steel. Ex-*PGM* 39, completed in Aug. 1959, and ex-*PGM* 40 were transported to the Philippines aboard ship in Feb. 1960, followed by Ex-*PGM* 41 and ex-*PGM* 42 in Apr. 1960. Total cost: $940,000. Similar in design to the six boats below.

ANTIQUE G 51 (ex-*PGM* 36) **MASBATE** G 52 (ex-*PGM* 37)
CAMARINES SUR G 49 (ex-*PGM* 33) **MISAMIS OCCIDENTAL** G 53 (ex-*PGM* 38)
LA UNION G 50 (ex-*PGM* 35) **SULU** G 49 (ex-*PGM* 34)

Displacement:	95 tons *standard* (143 tons *full load*)
Dimensions:	110 × 17 × 6½ feet
Guns:	1—60 mm. mortar, 2—40 mm. AA., 4—50 cal. M.G.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,540 = 18 kts.
Complement:	27

Notes
Built by Georgia Shipbuilding Co. (formerly MacDonnell Boats) St. Mary's, Georgia. Have the basic design of the former 110 ft. SC. type of the U.S. Navy. First four delivered to the Philippine Navy in 1955; G 52 and G 53 delivered in 1956. A photograph of *Camarines Sur* appears in the 1956-57 to 1961-62 editions.

Ex-U.S. SC Type

ALERT P 16 (ex-*SC* 1267) **MOUNTAIN PROVINCE** P 15 (ex-*SC* 736)
CAVITE P 19 (ex-*SC* 981) **SURIGAO** P 17 (ex-*SC* 747)
ILOCUS NORTE P 20 (ex-*SC* 1274)

Displacement:	85 tons *standard* (130 tons *full load*)
Dimensions:	111 (*o.a.*) × 17 × 6 feet
Guns:	1—40 mm. AA., 3—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,000 = 14-18 kts.
Complement:	28

Notes
Former United States small submarine chasers of wooden construction. Built in 1942-1943. Transferred in 1946-1948. *Cagayan P* 14 (ex-*SC* 731), *Ilocus Sur P* 16 (ex-*SC* 739) and *Isabella P* 18 (ex-*SC* 750) were stricken from the list of Philippine Navy vessels in 1956. During 1956 one SC type was transferred to the Bureau of Customs with two others (as listed) deactivated due to poor material condition. A photograph of *Ilocus Sur* appears in the 1956-57 to 1961-62 editions.

4 Ex-British SDB Type

SDB 1323 **SDB 1326** **SDB 1328** **SDB 1329**

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5½ feet
Guns:	1—3 pdr., 1—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 320 = 12 kts.
Complement:	14

Notes
Former British seaward patrol craft of the HDML type acquired from Australia in 1959.

REPAIR SHIP

Ex-U.S. ARL Type

(ex-U.S.S. *Romulus*, *ARL* 22, ex-*LST* 926)

Displacement:	1,625 tons *light* (4,100 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11 feet
Guns:	8—40 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,800 = 11·6 kts.

Notes
Former United States landing craft repair ship transferred to Philippines under MAP in Nov. 1961.

SURVEY SHIP

Ex-U.S.C.G.C. Type

SEQUOIA

Displacement:	1,057 tons
Dimensions:	190 × 30 × 13 feet
Machinery:	Triple expansion, 2 shafts. I.H.P.: 1,000 = 12 kts.

Notes
Ex-U.S. Coast Guard buoy tender. In Philippine Navy Reserve. *Anemone* was stricken from the list of Philippine Navy Vessels in 1957.

LIGHTHOUSE TENDERS

BOJEADUR L 46 (ex-*FS* 203) **LAUIS LEDGE** L 45 (ex-*FS* 185)

Displacement:	470 tons *standard* (811 tons *full load*)
Dimensions:	180 (*o.a.*) × 32 × 10 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,000 = 11 kts.
Complement:	43

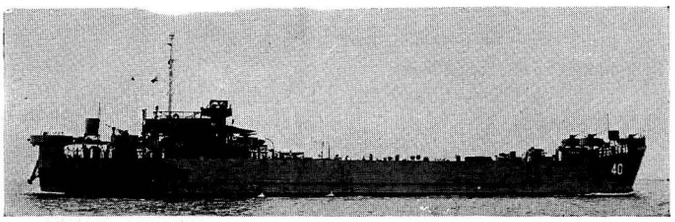
Notes
Ex-United States FS type. Photograph of *Lauis Ledge* in the 1956-57 and 1957-58 editions.

PEARL BANK L 47 (ex-*OL* 4)

Displacement:	162 tons *standard* (301 tons *full load*)
Dimensions:	120 (*o.a.*) × 24 × 8 feet
Guns:	2—20 mm.
Machinery:	Diesel. 2 shafts. B.H.P.: 240 = 6 kts.
Complement:	43

Notes
Ex-United States OL type. A photograph appears in the 1953-54 to 1957-58 editions.

LANDING SHIPS



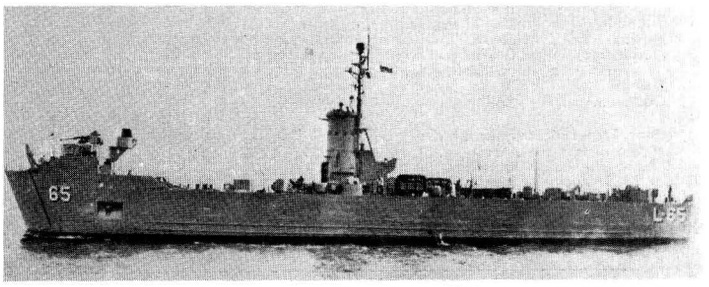
MISAMIS ORIENTAL — 1956 *Philippine Navy, Official*

Ex-U.S. LST Type

ALBAY T 39 (ex-*LST* 865) **MISAMIS ORIENTAL** T 40 (ex-*LST* 875)
BULACAN T 38 (ex-*LST* 843) **PAMPANGA** T 37 (ex-*LST* 842)
COTABATO T 36 (ex-*LST* 75)

Displacement:	1,625 tons (*light*), 4,080 tons (*loaded*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	7—40 mm. AA., 2—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,800 = 12 kts.
Complement:	90

Notes
Former United States landing ships of the LST type. *Cotabato*, T 36, ex-*LST* 75, was launched on 7 Apr. 1943. *LST* 72 and *LCU* 117 have been sold.



BATANES — 1962, *courtesy Mr. W. H. Davis*

Ex-U.S. LSM Type

BATANES T 65 (ex-U.S.S. *LSM* 236) **ISABELA** T 41 (ex-U.S.S. *LSM* 463)

Displacement:	743 tons *beaching* (912 tons *full load*)
Dimensions:	196½ (*w.l.*), 204 (*o.a.*) × 34½ × 8⅓ feet
Guns:	2—40 mm. AA.
Machinery:	Direct drive diesel. 2 shafts. B.H.P.: 2,800 = 12·5 kts.
Complement:	39 (4 officers, 35 men)

Notes
Former United States medium landing ships. *Batanes* was transferred to the Philippines on 15 Sep. 1960 at Seattle, Washington. U.S.S. *LSM* 320 is also being acquired.

Ex-U.S. LCI Type

DAVAO I 34 (ex-*LCI* 1058) **LANAO** I 35 (ex-*LCI* 1059)

Displacement:	173 tons *standard* (381 tons *full load*)
Dimensions:	159 (*o.a.*) × 23⅜ × 5⅓ feet
Guns:	5—20 mm.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,320 = 14 kts.
Complement:	43

Notes
Former United States Infantry Landing Craft employed as lighthouse tenders.

COAST GUARD UTILITY BOATS

15 Ex-U.S.C.G.C. Type

CGC 100	**CGC 103**	**CGC 106**	**CGC 109**	**CGC 112**
CGC 101	**CGC 104**	**CGC 107**	**CGC 110**	**CGC 113**
CGC 102	**CGC 105**	**CGC 108**	**CGC 111**	**CGC 114**

Notes
Ex-United States Coast Guard Cutters numbered 100-114. All active. No names assigned.

OILERS

LAKE NAUJAN Y 43 (ex-*YO* 173)

Displacement:	521 tons *standard* (1,400 tons *full load*)
Dimensions:	174 (*o.a.*) × 32 × 13¼ (*max.*) feet
Guns:	2—20 mm.
Machinery:	Diesel. B.H.P.: 560 = 8 kts.

Notes
Former U.S. oilers of YO type. Crew 21. Photograph in 1953-54 to 1960-61 editions.

LAKE TAAL Y 41 (ex-*Y* 19)

Displacement:	484 tons *standard* (1,300 tons *full load*)
Dimensions:	162½ (*o.a.*) × 27 × 12 (*max.*) feet
Guns:	2—50 cal. Browning M.G.
Machinery:	Diesel. B.H.P.: 4,000 = 6 kts.

Notes
One oiler (YO) was decommissioned in 1956 owing to poor condition.

WATER CARRIER

LAKE LANAO Y 42 (ex-*YW* 125)

Displacement:	1,235 tons *full load*
Dimensions:	174 (*o.a.*) × 32 × 15 (*max.*) feet
Guns:	2—20 mm.
Machinery:	Diesel. B.H.P.: 640 = 9 kts.

Notes
Water carrier of ex-United States YW type. Crew 21. Rated as an auxiliary vessel.

TUGS

IFUGAO R 44 (ex-*ATR* 96)

Displacement:	534 tons *standard* (852 tons *full load*)
Dimensions:	134½ (*w.l.*), 143 (*o.a.*) × 33 × 13½ feet
Guns:	1—3 inch, 2—20 mm.
Machinery:	Diesel Electric. B.H.P.: 1,500 = 13 kts.

Notes
Rescue tug returned to the United States from the United Kingdom, and then transferred to the Philippine Navy. Crew 33. Photograph in the 1956-57 to 1957-58 editions.

IGOROT 222 (ex-*YTL* 572) **MARANAO** 221 (ex-*YTL* 574)
MANGYAN 223 (ex-*ST* 1312)

Notes
Small harbour tugs. One tug (YTL) was decommissioned in 1956 due to poor condition.

POLAND

Administration

Commander of the Polish Navy:
Vice-Admiral Zdzislaw Studzinki.

Chief of Naval Staff:
Rear-Admiral Ludwik Janczyszyn.

Naval, Military and Air Attaché in London:
Colonel M. Roman

Ships

Strength, 1962: 3 destroyers, 7 submarines, 45 patrol vessels, 32 minesweepers, 36 landing craft, 11 auxiliaries, 55 service craft.

Polish warship names are prefixed by " O.R.P.

Personnel

1962: 20,000 (1,800 officers and 18,200 men)

Mercantile Marine

Lloyd's Register of Shipping:
320 vessels of 747,496 tons *gross*

DESTROYERS (*Niszczyciele*)

4 Ex-U.S.S.R. " Skoryi " Class

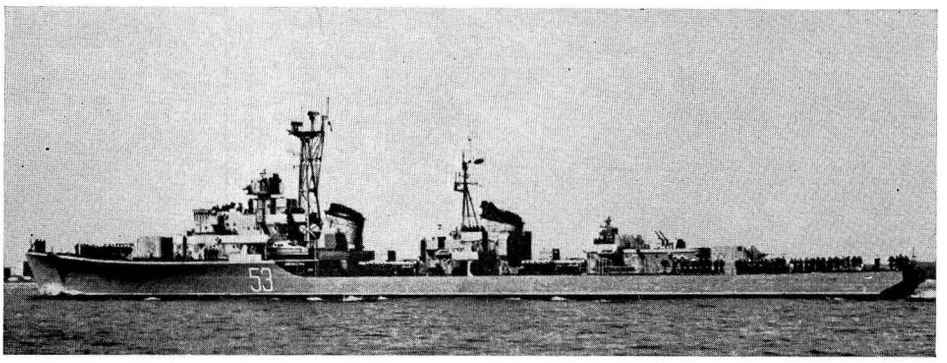
GROM (ex-*Smetlivyi*) **WICHER** (ex-*Skoryi*)

Displacement:	2,200 tons *standard* (3,000 tons *full load*)
Dimensions:	393¾ × 37½ × 13⅛ feet
Guns:	4—5·1 inch; 2—3 inch AA.; 7—37 mm., AA.
Tubes:	10—21 inch (quintrupled)
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 70,000=38 kts.
Boilers:	3
Complement:	280

Notes

Former Soviet destroyers of the first " Skoryi " type. *Wicher* was in fact the prototype. Two were delivered by U.S.S.R. to the Polish Navy on 15 Dec. 1957 (*Grom*) and 28 June 1958 (*Wicher*). Pennant Nos. 273, 274, respectively. " Grom " means Thunderbolt. " Wicher " means Hurricane.

Two more units of the " Skoryi " class are reported to have been transferred from the U.S.S.R. to Poland in 1961.



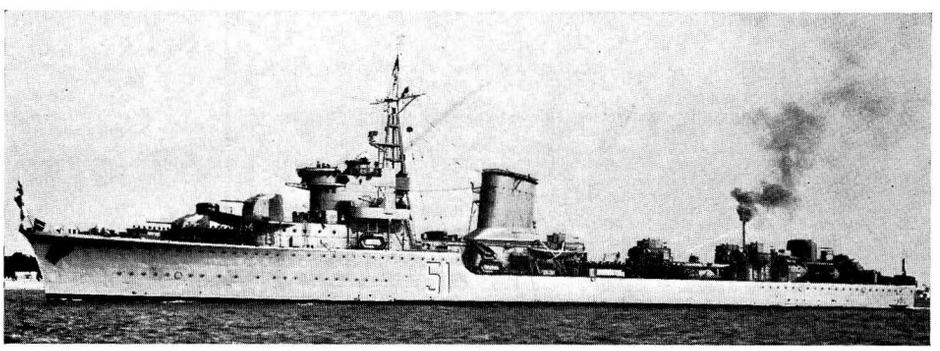
GROM 1959, *Sergei Romanov*

BLYSKAWICA

Pennant No.	271
Builders:	J. Samuel White & Co. Ltd., Cowes, Isle of Wight
Laid down:	1935
Launched:	1 Oct. 1936
Completed:	1937
Displacement:	2,144 tons *standard* (3,383 tons *full load*)
Dimensions:	357 (*pp.*), 374 (*o.a.*) × 37 × 10¼ feet
Guns:	8—4 inch AA., 10—37 mm. AA., (2—20 mm. AA. removed)
Tubes:	3—21 inch (tripled)
A/S weapons:	4 D.C.T., 22 D.C. and racks
Machinery:	Parsons geared turbines 2 shafts H.P.: 54,000=39 kts.
Boilers:	4, of 3-drum type
Complement:	180

General Notes

Name means Lightning. Originally fitted for minelaying, and could carry 7 mines; but no longer has minelaying capabilities. Bows were strengthened for ice navigation. The original armament was 7—4·7 inch, 4—47 mm. AA., 4 M.G., 6—21 inch tubes (tripled), 2 D.C.T. The ship was completely dismantled in 1958 down to the hull and superstructure and was entirely rebuilt and her armament modified in 1959-60.



BLYSKAWICA *Wright & Logan*

Engineering Notes

Boilers work at 385 lbs. per sq. inch pressure with 200 degrees of superheat Ship exceeded her designed speed on trials

Recent Disposal

It was officially stated in 1962 that the old destroyer *Burza* has been withdrawn from active service with the Polish Navy and is now a museum ship.

ESCORT VESSEL

New Construction

Displacement:	**950 tons**
Dimensions:	**278¾ × 31½ × 9½ feet**
Guns:	3—3·9 inch, 8—37 mm. AA.
Tubes:	3—21 inch
Mines:	Fitted for laying
Machinery:	Geared turbines. 2 shafts. 28 kts.

Notes

The construction of a large escort vessel is in the preparatory stages. A transitional type from the " Kronstadt " to the " Riga " class, she will be built in the Polish yard at Gydnia.

SUBMARINES (*Okrety Podwodne*)

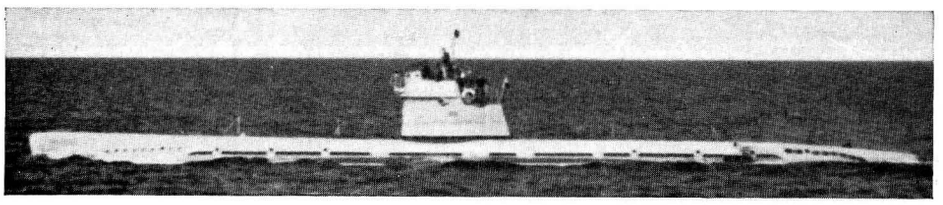
6 Ex-U.S.S.R " M " Type

KASZUB 301 **KUJAWIAK 305** **MAZUR 302**
KRAKOWIAK 303 **KURP 306** **SLAZAK 304** (ex-*Podhalanin*)

Displacement:	350 tons (*surface*), 420 tons (*submerged*)
Dimensions:	167½ × 16 × 11¾ feet
Guns:	1—37 mm. AA.
Tubes:	4—21 inch
Machinery:	Diesels. B.H.P.: 800=13 kts. (*surface*). Electric Motors. H.P.: 400=8 kts. (*submerged*)
Oil fuel:	18 tons
Radius:	3,400 miles at 8 kts. (*surface*). 90 miles at 3 kts. (*submerged*)
Complement:	18

Notes

Former Soviet " M V " Class, coastal submarines M 100-105. All built in 1944-1950. Transferred to the Polish Navy in 1956-57. One (said to be *Kurp*) ran aground and was so badly damaged that she was at one time reckoned a total loss, but it is reported that she has been renamed *Mazoweze*.



KUJAWIAK 1958, *Sergei Romanov*

" W " Class Notes

It is now doubtful if there are any " W " class submarines in the Polish Navy. (Two " W " class submarines were sold by Poland to Indonesia in Aug. 1959, but there were then reports that they were to be replaced.)

1 " Orzel " Class

SEP

Pennant No.:	291
Builders:	Rotterdam Dry Dock Co
Laid down:	1936
Launched:	17 Oct. 1938
Completed:	1939
Displacement:	1,092 tons (*surface*), 1,450 tons (*submerged*)
Dimensions:	273½ (*pp.*), 275½ (*o.a.*) × 22 × 13 feet
Guns:	1—4·1 inch, 2—40 mm. AA.
Tubes:	8—21 inch
Mines:	40
Machinery:	2 Sulzer Diesels. B.H.P.: 4,740= 19 kts. *surface*; Electric motors. H.P.: 1,000=9 kts. *submerged*
Complement:	56

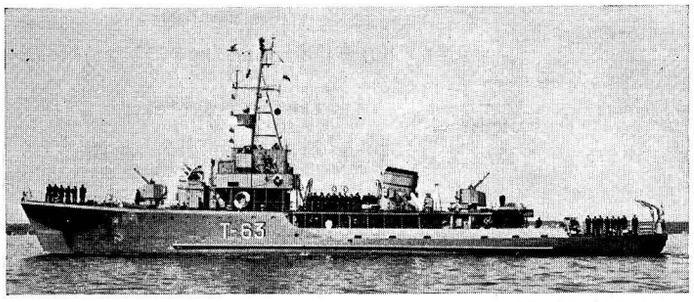
General Notes

This name means Vulture. Fitted for minelaying. Now over age and used for initial sea training purposes. Photograph in the 1939 to 1957-58 editions.

Recent Disposals

The three submarines of the " Wilk " class, *Rys*, *Wilk* and *Zbik*, were broken up in 1957.

FLEET MINESWEEPERS



LOS 1959, *Sergei Romanov*

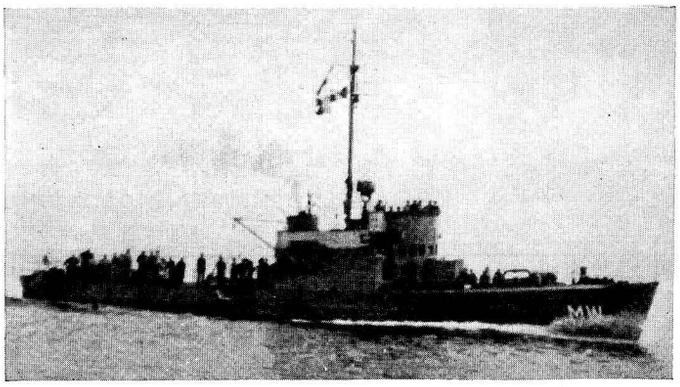
12 Ex-U.S.S.R. "T43" Type

BIZON 605	**DZIK 604**	**MORS 610**	**ZBIK 611**
BOBR 606	**FOKA 609**	**ROZMAK 607**	**ZUBR 601**
DELFIN 608	**LOS 603**	**TUR 602**	**612**

Displacement: 410 tons *standard* (530 tons *full load*)
Dimensions: 200 × 27¼ × 9 feet
Guns: 4—37 mm. AA., 8—13 mm. M.G. A.A.
Machinery: Diesel motors. 2 shafts. Speed 18 kts.

Notes
Fleet minesweepers and general utility vessels of the Russian "T43" type built in Poland at the Stocznia Gdynska, Gdynia, in 1957-62. Photograph of *Tur* in the 1958-59 edition.

COASTAL MINESWEEPERS (*Tralowce*)



MEWA 1958

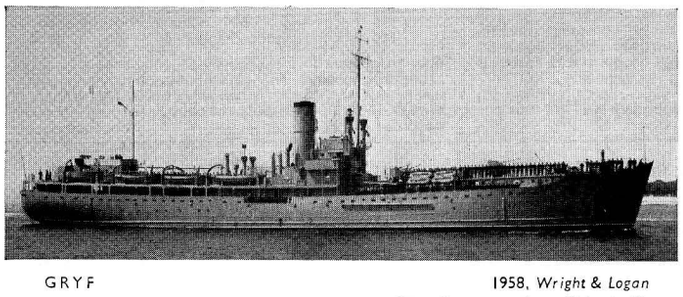
4 "Bird" Class

CZAJKA (10 Apr. 1935)
MEWA (1935)
RYBITWA (26 Apr. 1935)
KOMPAS, ex-*Zoraw* (22 Aug. 1938)

Displacement: 140 tons *standard* (183 tons *full load*)
Dimensions: 139½ × 21½ × 5½ feet
Guns 2—37 mm., 2 M.G., except *Kompas*, none
Machinery: Diesel. B.H.P.: 1,040=15 kts.
Complement: 30

Notes
All built in Poland, *Mewa* and *Kompas* at Gdynia, *Czajka* and *Rybitwa* at Modlin. Launch dates above. Recovered from German hands in 1945. *Czajka* (meaning Lapwing) had been renamed *Westerplatte*. *Mewa* means Seagull, and *Rybitwa*, Tern; these two were numbered *MT* 6 and 7 respectively, by the Germans. *Kompas* is used as a surveying vessel, *HG* 11. Pennant Nos: D 1-4. (20 minesweeping boats were built in Polish yards, 1955-60.)

TRAINING SHIPS (*Okrety skzolne*)



GRYF 1958, *Wright & Logan*

GRYF (ex-*Zetempowiec*, ex-*Opplem*, ex-*Omsk*, ex-*Empire Contees*, ex-*Irene Oldendorff*)

Measurement: 1,959 tons *gross*
Dimensions: 282⅛ × 44¼ × 18¾ feet
Guns: 2—3·9 inch, 4—37 mm. AA.
Machinery: Steam engines. H.P.: 1,200=10 kts.

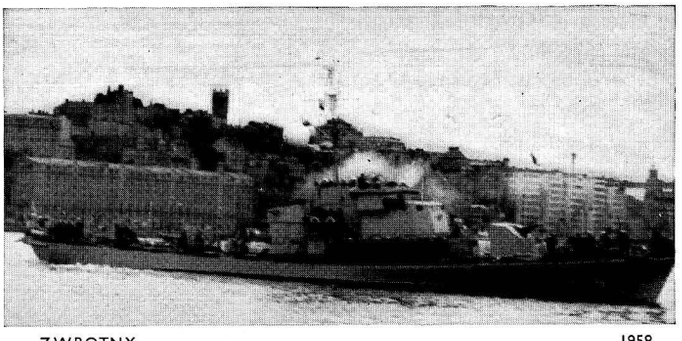
Notes
Former German "Hansa" class ship. Built by Burmeister & Wain. Launched in 1944. Taken over in 1947 and transferred to the Navy in 1949. The name of this ship was changed from *Zetempowiec* to *Gryf* in 1957.

ISKRA (ex-*Pigmy*, ex-*Iskra*, ex-*St. Blanc*, ex-*Vlissinghr*)

Displacement 560 tons
Dimensions: 128 × 25 × 10 feet
Machinery: Diesel engines. B.H.P.: 250=7·5 kts,
Complement: 30, plus 40 cadets

Notes
A three masted schooner with auxiliary motors. Built by Muller, Foxhol, Holland. Launched in 1917. A photograph of *Iskra* appears in the 1961-62 edition.
Dar Pomorza (ex-*Prinz Eitel Friedrich*), see full details and photograph in the 1961-62 edition, is a training ship of the Polish Merchant Marine.
There are also 17 landing craft, 7 German design and 10 U.S. LCT(5) class).

PATROL VESSELS



ZWROTNY 1958

8 Ex-U.S.S.R. "Kronstadt" Class

CZINNY 361	**NIEUGIETY 362**	**ZRECZNY 366**	**ZWROTNY 364**
GROZNY 368	**WYTRWALY 367**	**ZWINNY 365**	**ZWRZIETY 363**

Displacement: 300 tons *standard*
Dimensions: 167½ × 19½ × 9 feet
Guns: 1—3·9 inch, 2—37 mm. AA., 4—13 mm. M.G. AA.
Machinery: 2 diesels. Speed=27 kts.
Complement: 40

Notes
Four former Russian improved submarine chasers of the "Kronstadt" class, built in 1953, were acquired by the Polish Navy in 1957, and *Grozny*, *Wytrwaly*, *Zreczny* and *Zwinny* (names mean Strong, Energetic, Clever and Speedy), were delivered on 15 Dec. 1957.

OP 101	**OP 103**	**OP 105**		**OP 107**
OP 102	**OP 104**	**OP 106**		**OP 108**

Displacement: 120 tons
Dimensions: Length: *circa* 124 feet
Guns: 2—37 mm. AA. Depth charges
Machinery: Diesel motors. Speed: 20 kts.

Notes
Similar to the German R-boat type. Built at Gdynia. Launched in 1956. (Eight units of the "Gdansk" class patrol craft, including *OP* 212, built in 1960, and four units of the "Oksywie" class patrol craft, have also been reported.)

KP 118	**KP 120**	**KP 122**	**KP 124**	**KP 126**
KP 119	**KP 121**	**KP 123**	**KP 125**	

Displacement: 60 tons
Guns: 2 M.G. AA. (in twin mounting)
Machinery: 3 speed: 15 kts.

Notes
Small patrol boats reported to be under the juridiction of the Frontier Guard.

MOTOR TORPEDO BOATS (*Scigacze torpedowe*)

20 Ex-U.S.S.R. "P 6" Type

Displacement: 68 tons *full load*
Dimensions: 83 × 20 × 6 (*max*) feet
Guns: 4—25 mm. AA., 8 D.C.
Tubes: 2—21 inch
Machinery: 4 diesels. B.H.P.: 4,800 = 43 kts.
Complement: 13

Notes
Aquired from the U.S.S.R. in 1957-58. Nos. observed in 1961: 401 to 406.
New Series
A new series of M.T.B.'s, of Polish design, with gas turbines, is reported to have been constructed in Polish yards.

10 Ex-U.S.S.R. "PA 5" Type

KT 83	**KT 85**	**KT 87**	**KT 89**	**KT 91**
KT 84	**KT 86**	**KT 88**	**KT 90**	**KT 92**

Displacement: 50 tons *standard*
Dimensions: 85½ × 20 × 6 feet
Guns: 4—25 mm. AA. (two twin mountings)
Tubes: 2—21 inch
Machinery: Diesel motors. Speed *circa* 50 kts.

Notes
Motor torpedo boats of the Soviet "PA 5" class. Launched from 1956 onwards.

10 Ex-U.S.S.R. "PA 3" Type

KT 71	**KT 73**	**KT 75**	**KT 77**	**KT 79**
KT 72	**KT 74**	**KT 76**	**KT 78**	**KT 80**

Displacement: 40 tons *standard* (50 tons *full load*)
Dimensions: 85 × 20 × 6 feet
Guns: 4—25 mm. AA. (two twin)
Tubes: 2—21 inch
Machinery: Diesels. Speed 40 kts.

Notes
Ex-Russian motor torpedo boats of the "PA 3" type. Built of wood. Launched in 1953-55.

SURVEYING VESSELS (*Okret hydrograficzne*)

BALTYK

Displacement: 1,000 tons
Measurement: 658 tons *gross*, 450 tons *deadweight*
Dimensions: 194¼ (*o.a.*), 175½ (*pp.*) × 29½ × 14 feet
Machinery: Steam engine. H.P.: 1,000=11 kts.

Notes
Trawler of B-10 type. Built in 1944 in Gdansk. Converted and structure altered. Un armed in peacetime. Surveying vessel of the Polish Navy.
The hydrographic vessels *Zodiac* and *Koziorozec* (see full details in the 1961-62 edition) belong to the Shipping Board of Gdansk.

OILERS (*Ropowiec*)

ZOLW (ex-*Stutthof*)
Notes
Displacement: 450 tons. Name changed from *Stutthof* to *Zolw* (Turtle) in 1961.

KRAB **SLIMAK**
Notes
Measurement: 300 tons *deadweight*. *Krab* means Crab and *Slimak* means Snail. Small tankers built in 1958 at Gdansk.
There are also *Z* 1, *Z* 2 and *Z* 3, lighters built in 1900, taken by the Germans and fitted with diesel engines, handed back after the war and converted into tankers; the water tanker (*wodotankowiec*) *Plehmindorf* of 500 tons displacement; and the converted bunker ship *Kablowiec* now a naval cable vessel, the fuel service vessel *Meduza*, and the degaussing ships *Uran* and *Urania*.

PORTUGAL

Administration

Minister of Marine:
Rear-Admiral Fernando Quintanilha Mendonça Dias

Chief of Naval Staff:
Vice-Admiral Joaquim de Sousa Uva.

Naval Attaché in London:
Commander Jose Emidio Santos Pinto Pereira, P.N.

Navy Estimates

1960: Escudos 571,618,225
1961: Escudos 592,786,452
1962: Escudos 605,496,335

Personnel

1962: 10,130 (930 officers and 9,200 men) including marines

Mercantile Marine

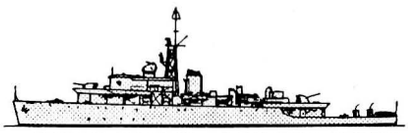
Lloyd's Register of Shipping:
347 vessels of 677,159 tons *gross*

Silhouettes

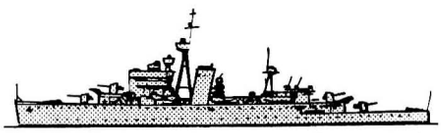
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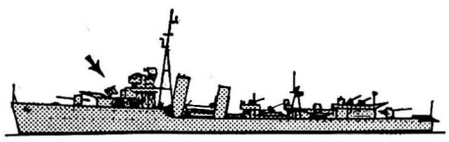
PERO ESCOBAR



ALVARES CABRAL, PACHECO PEREIRA, D. FRANCISCO DE ALMEDA, VASCO DA GAMA



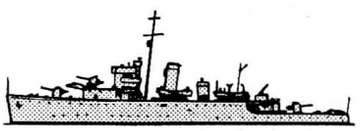
BARTOLOMEU DIAS



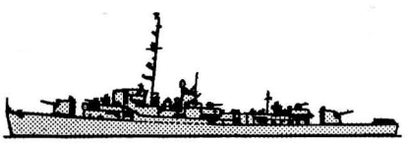
LIMA, TEJO, VOUGA



NUNO TRISTÃO



GONÇALVES ZARCO



CORTE REAL, DIOGO CÃO



DIOGO GOMES



JOÃO DE LISBOA, PEDRO NUNES

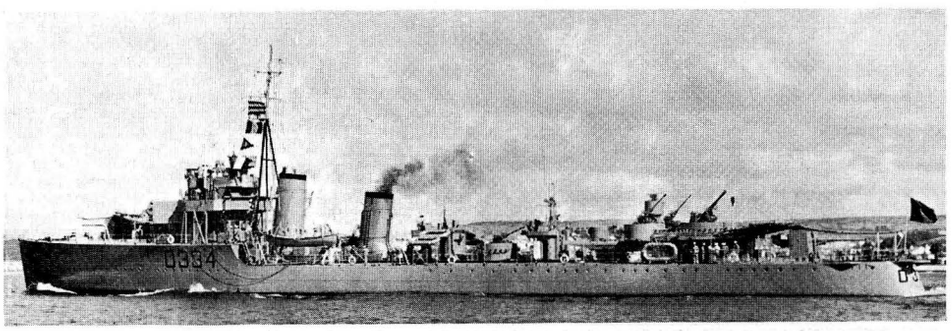
DESTROYERS (*Contratorpedeiros*)

3 "Vouga" Class

	LIMA	TEJO	VOUGA
Displacement:	1,238 tons *standard* (1,563 tons *full load*)		
Dimensions:	307 (*pp.*), 323 (*o.a.*) × 31 × 11 (*mean*) feet		
Guns:	2—4·7 inch, 5—40 mm. AA., 3—20 mm. AA., (as modernised)		
Tubes:	4—21 inch (quadrupled)		
Mines:	Rails fitted and 20 mines carried		
A/S weapons:	1 Squid triple-barrelled depth charge mortar		
Machinery:	Parsons geared turbines. S.H.P.: 22,000 = 30 kts. (*approx.*)		
Boilers:	2 or 3 Yarrow (400 lb. pressure) (see *Engineering Notes*)		
Radius:	3,000 miles at 11 kts.		
Complement:	184 (normal)		

General Notes
These destroyers are of Yarrow type. *Tejo* was built at Lisbon. *Vouga* and *Lima* were constructed at Scotstoun by Yarrow & Co. Ltd., as were the machinery and boilers of all three. Refitted during 1946-49 by Yarrow and Vickers-Armstrongs. Reconstruction and modernisation included the shortening of the after funnel, stepping of a new tripod foremast, increase in the anti-aircraft armament and the installation of Asdic equipment and radar.

Engineering Notes
Tejo and *Vouga* each have one boiler out of service (needing retubing) and for safety their power and speed are reduced. *Lima* still has three boilers in service.



VOUGA

1961, *Portuguese Navy, Official*

Conversion Notes
All three ships were again refitted in 1957 and their armament modified. They have improved anti-submarine capabilities by the installation of ahead throwing weapons (squid mountings). The side thrown projectors were removed, and only two of the depth charge tracks retained.

Gunnery Notes
Two of the five 40 mm. AA. guns are in a twin mounting.

Pennant No.	*Name*	*Launched*	*Completed*
D 333	*Lima*	29 May 1933	Nov. 1933
D 335	*Tejo*	4 May 1935	Oct. 1935
D 334	*Vouga*	25 Jan. 1933	June 1933

Recent Disposals
The unconverted fifth ship of this class, *Douro*, was discarded in Dec. 1959. The converted *Dão* was discarded on 29 Nov. 1960. It is officially stated that *Tejo* will probably be discarded in 1962.

FAST ANTI-SUBMARINE FRIGATE (*Fragata*) Light Destroyer Type

1 "Pero Escobar" Class

PERO ESCOBAR

Pennant No.:	F 335
Builders:	Navalmeccanica, Castellammare di Stabia, Italy
Laid down:	7 Jan. 1955
Launched:	25 Sep. 1955
Completed:	July 1957
Displacement:	1,250 tons *standard* (1,600 tons *full load*) officially revised figures
Dimensions:	295¼ (*pp.*), 306¾ (*w.l.*), 321½ (*o.a.*) × 35½ × 10 feet
Guns:	2—3 inch AA., 2—40 mm. AA. (twin mounts), 4—20 mm. AA. (twin mounts)
Tubes:	3—21 inch
A/S weapons:	2 Squid triple barrelled depth charge mortars
Machinery:	Geared Turbines. 2 shafts. S.H.P.: 24,000 = 32 kts.
Boilers:	2 Ansaldo-Foster Wheeler
Oil fuel:	236 tons
Radius:	2,800 miles at 13·5 kts. (officially revised figures)
Complement:	165 (normal)



PERO ESCOBAR

1961, *Portuguese Navy, Official*

General Notes
A "light destroyer" or fast anti-submarine escort vessel built to the order of NATO for the Portuguese Navy.

Photograph Notes
A larger starboard broadside view appears in the 1957-58 edition, and another in the 1959-60 and 1960-61 editions.

FAST FRIGATES (*Fragatas*) Destroyer Escort Type (DE)

2 New Construction U.S. " Dealey " Type

Displacement:	1,450 tons *standard* (1,950 tons *full load*) officially revised figures
Dimensions:	315 × 37 × 14 (*max.*) feet
Guns:	4—3 inch, 50 cal., d.p. AA. (2 twin)
A/S weapons:	2 four-barrelled Bofors rocket-launchers, 2 D.C. throwers
Machinery:	De Laval geared turbine. 1 shaft. S.H.P.: 20,000 = 25 kts.
Boilers:	2 Foster-Wheeler
Oil fuel:	400 tons (to be reviewed)
Radius:	4,500 miles at 15 kts.
Complement:	176 (provisional)

Notes

It is officially stated that the constructions of these ships was begun in 1961 at Navalis Shipyard, Lisbon. It is anticipated that one more will be built.

2 " Diogo Cão " Class Ex-U.S. " John C. Butler " Class

CORTE REAL (ex-U.S.S. *McCoy Reynolds, DE* 440)
DIOGO CÃO (ex-U.S.S. *Formoe, DE* 509)

Name:	*Corte Real*	*Diogo Cão*
Pennant No.:	F 334	F 333
Builders:	Federal S.B. & D.D. Co., Port Newark	Federal S.B. & D.D. Co., Port Newark
Launched:	22 Feb. 1944	2 Apr. 1944
Completed:	2 May 1944	5 Oct. 1944

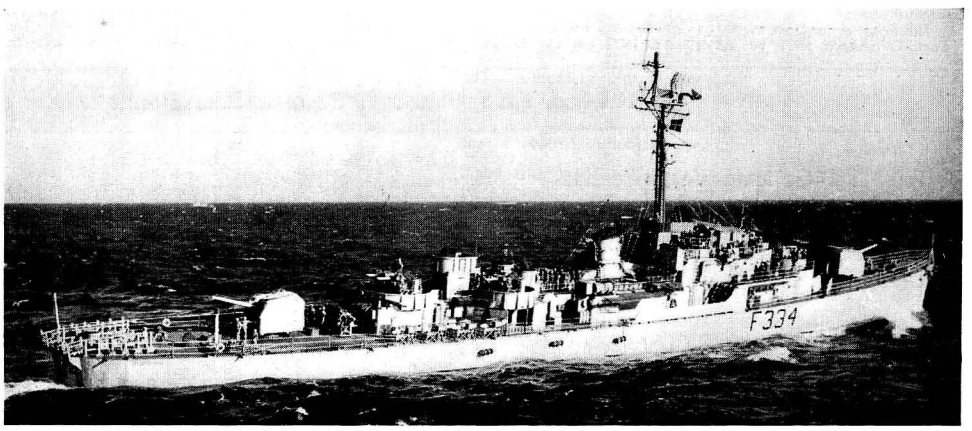
Displacement:	1,350 tons *standard* (2,100 tons *full load*)
Dimensions:	306 (*o.a.*) × 35⅜ × 11 (*max.*) feet
Guns:	2—5 inch, 38 cal.; 10—40 mm. AA. (3 twin mounts, 1 quadruple mount)
A/S weapons:	1 hedgehog, 8 D.C.T., 2 D.C. tracks
Machinery:	Geared turbines. 2 shafts. S.H.P.: 12,000 = 24 kts.
Boilers:	2
Oil fuel:	340 tons
Radius:	4,000 miles at 12 kts.
Complement:	200 (normal)

General Notes

Former United States destroyer escorts of the " John C. Butler " class, transferred to Portugal at San Francisco, California, on 7 Feb. 1957 and renamed after Portuguese navigators. The original 3—21 inch torpedo tubes in these ships were removed.



DIOGO CÃO — 1961, *Portuguese Navy, Official*



CORTE REAL — 1959, *Portuguese Navy, Official*

FRIGATES (*Fragatas*)

4 " Alvares Cabral " Class Ex-British " Bay " Class

ALVARES CABRAL (ex-H.M.S. *Burghead Bay*)
D. FRANCISCO DE ALMEIDA (ex-H.M.S. *Morecambe Bay*)
PACHECO PEREIRA (ex-H.M.S. *Bigbury Bay*)
VASCO DA GAMA (ex-H.M.S. *Mounts Bay*)

Displacement:	1,600 tons *standard* (2,850 tons *full load*) officially revised figures
Dimensions:	286 (*pp.*), 307½ (*o.a.*) × 38½ × 12¾ feet (15½ feet *max.*)
Guns:	4—4 inch, 6—40 mm. AA. (2 twin)
A/S weapons:	1 Hedgehog, 4 D.C. throwers, 2 D.C. tracks
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	680 tons
Radius:	7,500 miles at 10 kts.
Complement:	168 (normal)

General Notes

Former British frigates of the " Bay " class, designed primarily for anti-aircraft escort duties. *Alvares Cabral* and *Pacheco Pereira* were purchased from Great Britain in Apr. 1959 and officially transferred to the Portuguese Navy at Plymouth on 11 May 1959. *D. Francisco de Almeida* and *Vasco da Gama* were purchased from Great Britain in May 1961 and modernised before delivery by John I. Thornycroft & Co. Ltd., Woolston, Southampton, where they were commissioned in the Portuguese Navy on 3 Aug. 1961.

Photograph Notes

A photograph of *Pacheco Pereira* appears in the 1959-60 edition.



ALVARES CABRAL — 1960, *Portuguese Navy, Official*

Pennant No.	*Name*		*Builders*	*Laid down*	*Launched*	*Completed*
F 336	*Alvares Cabral*		Charles Hill & Sons Ltd., Bristol	21 Sep. 1944	3 Mar. 1945	20 Sep. 1945
F 479	*D. Francisco de Almeida*	T	Wm. Pickersgill Ltd., Sunderland	30 Apr. 1944	1 Nov. 1944	22 Feb. 1949
F 337	*Pacheo Periera*		Hall Russell & Co. Ltd., Aberdeen	30 May 1944	16 Nov. 1944	10 July 1945
F 478	*Vasco da Gama*	W	Wm. Pickersgill Ltd., Sunderland	23 Oct. 1944	8 June 1945	11 Apr. 1949

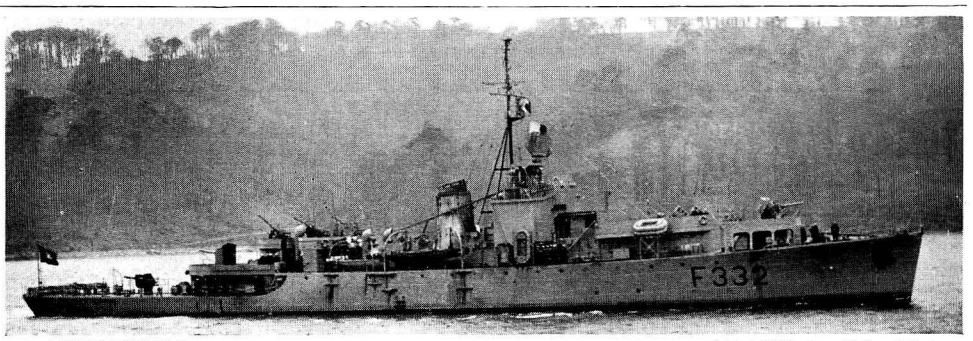
T = Completed by John I. Thornycroft & Co. Ltd., Woolston, Southampton.
W = Completed by J. Samuel White & Co. Ltd., Cowes, Isle of Wight.

2 " Diogo Gomes " Class Ex-British " River " Class

DIOGO GOMES (ex-H.M.S. *Awe*)
NUNO TRISTÃO (ex-H.M.S. *Avon*)

Name:	*Diogo Gomes*	*Nuno Tristão*
Pennant No.:	F 331	F 332
Builders:	Fleming & Ferguson Ltd., Paisley	Charles Hill & Sons Ltd., Bristol
Laid down:	27 May 1943	8 Jan. 1943
Launched:	28 Dec. 1943	19 June 1943
Completed:	21 Apr. 1944	18 Sep. 1943

Displacement:	1,460 tons *standard*, 1,865 tons *normal* (2,450 tons *full load*) officially revised figures
Dimensions:	283 (*pp.*), 301½ (*o.a.*) × 36¾ × 12 feet
Guns:	2—4 inch, 6—40 mm. AA.
A/S weapons:	2 squid triple-barrelled depth charge mortars, 2 depth charge tracks (see *Anti-Submarine Notes*)
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 18 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	620 tons (officially revised figures)
Radius:	7,000 miles at 10 kts. (officially revised figures)
Complement:	175 (normal)



NUNO TRISTÃO — *Added* 1961, *Tom Mollands Ltd.*

General Notes

Former British frigates of the " River " class. Purchased from Great Britain in 1948 and transferred to Portugal in May 1949. The originally designed standard displacement was 1,370 tons.

Anti-Submarine Notes

When these ships were refitted in 1959 their anti-submarine capabilities were improved by the installation of two squid triple-barrelled depth charge mortars. The four side thrown depth charge projectors were removed and only two depth charge tracks were retained.

Photograph Notes

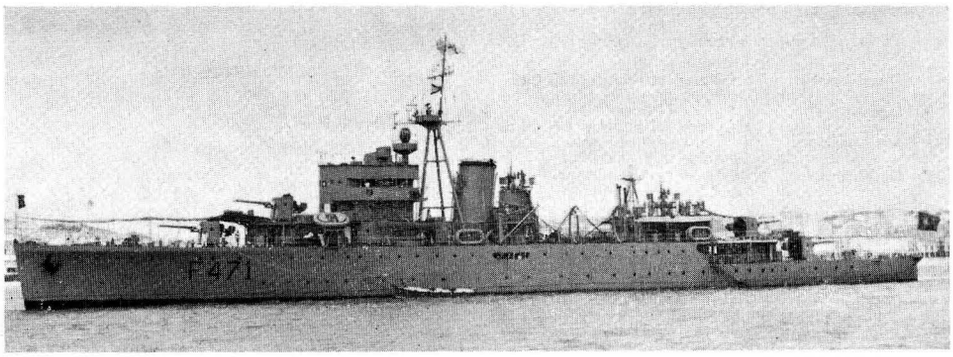
A port bow view of *Diogo Gomes* appears in the 1958-59 to 1960-61 editions.

FRIGATES (Rated as First Class Sloops, *Avisos de Primeira Classe*)

1 " Afonso de Albuquerque " Class

BARTOLOMEU DIAS

Pennant No.:	F 471
Builders:	R. & W. Hawthorn Leslie & Co., Ltd., Hebburn-on-Tyne
Laid down:	24 May 1933
Launched:	10 Oct. 1934
Completed:	May 1935
Displacement:	1,788 tons *standard* (2,439 tons *full load*)
Dimensions:	326¾ × 44¼ × 12½ feet *(mean)*
Guns:	4—4·7 inch, 50 cal., 2—3 inch AA., 8—20 mm. AA.
A/S weapons:	2 D.C. throwers, 2 D.C. tracks
Mines:	Capacity 40
Machinery:	Parsons geared turbines. S.H.P.: 8,000=21 kts.
Boilers:	2 Yarrow
Oil fuel:	580 tons
Radius:	10,000 miles at 10 kts. (officially revised figures)
Complement:	184 (normal)



BARTOLOMEU DIAS — 1962, *Portuguese Navy, Official*

General Notes

The original contract for this ship was placed with Odero-Terni-Orlando in 1931, but cancelled in 1932, and the design was modified by the new builders when a fresh contract was made. The ship made 22 kts on trials without being pressed. *Bartolomeu Dias* no longer has a white band around her funnel since she has pennant number painted on bows. Designed for overseas service. Fitted to carry 40 mines.

Recent Loss

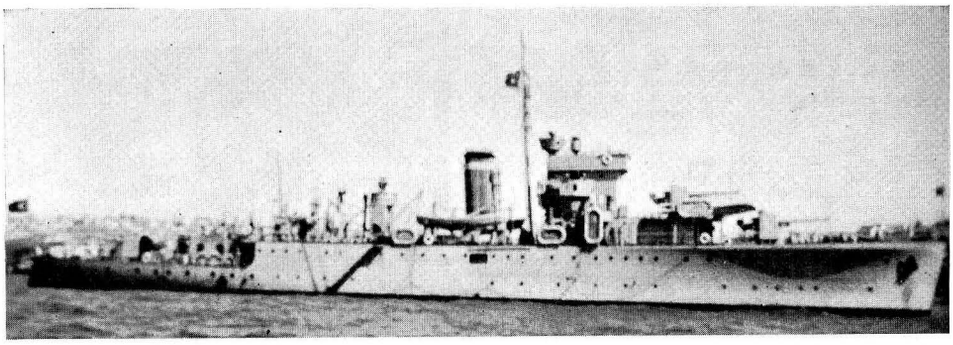
Sister ship *Afonso de Albuquerque* was lost in action on 18 Dec. 1961 during the Indian invasion of Goa.

FRIGATES (Rated as Second Class Sloops, *Avisos de Segunda Classe*)

1 " Gonçalo Velho " Class

GONÇALVES ZARCO

Pennant No.:	F 476
Builders:	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn-on-Tyne
Laid down:	9 Oct. 1931
Launched:	28 Nov. 1932
Completed:	Sep. 1933
Displacement:	950 tons *standard* (1,414 tons *full load*)
Dimensions:	250 (*pp.*), 268 (*o.a.*) × 35½ × 11¼ feet *(mean)*
Guns:	3—4·7 inch, 50 cal., 5—20 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 2,000=16·5 kts.
Boilers:	2 Yarrow
Oil fuel:	335 tons *normal*, 470 tons *max.*
Radius:	6,000 miles at 10 kts. (officially revised figures)
Complement:	142 (normal)



GONÇALVES ZARCO — *courtesy Lieut. Cunha Freitas, P.N.*

Notes

Similar to the former British sloops of the " Bridgewater " Class. The mainmast is now reduced to little more than a staff. On her first full speed trials the ship made a speed of 17·4 kts. for four hours. *Gonçalves Zarco* no longer has a white band around her funnel (now has pennant number on bows).

Disposal Notes

Goncalo Velho was scrapped on 19 June 1961, it is officially stated.

(The frigate *João de Lisboa*, formerly rated as a Second Class Sloop, *Aviso de Segunda Classe*, was converted in 1961 into a Surveying Vessel, *Navio Hidrograficos*, like her sister ship *Pedro Nunes*, see next page.)

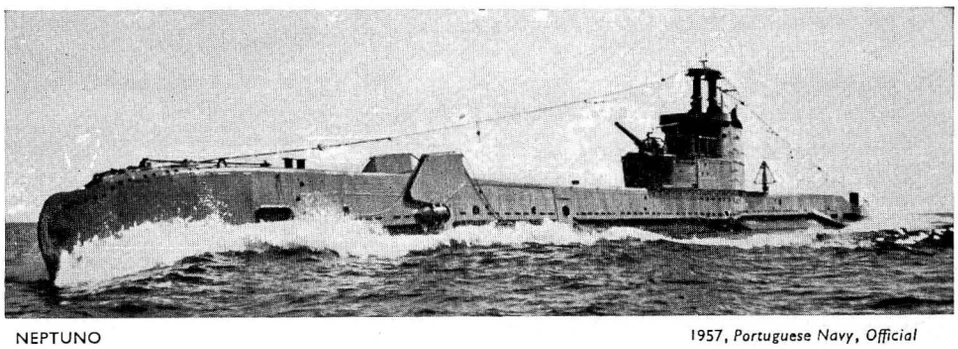
SUBMARINES (*Submersiveis*)

3 "Narval" Class
Ex-British "S" Class

NARVAL (ex-H.M.S. *Spur*) **NEPTUNO** (ex-H.M.S. *Spearhead*)
NAUTILO (ex-H.M.S. *Saga*)

Displacement:	715 tons (*standard*), 859 tons (*surface*), 1,008 tons (*submerged*),
Dimensions:	217 (*o.a.*) × 23¾ × 10½ (*mean*) feet
Guns:	1—4 inch (see *Notes*)
Tubes:	6—21 inch (*bow*). 12 torpedoes carried
Machinery:	Diesels. B.H.P.: 1,900=14¾ kts. (*max.*) (*surface*) Electric motors. H.P.: 1,300=9 kts. (*max.*) (*submerged*)
Oil fuel:	87 tons (*normal stowage*)
Radius:	5,000 miles at 10 kts.
Complement:	45 (normal)

Pen. No.	*Name*	*Laid down*	*Launched*	*Completed*
S 160	*Narval*	1 Oct. 1943	17 Nov. 1944	18 Feb. 1945
S 161	*Nautilo*	5 Apr. 1944	11 Mar. 1945	14 June 1945
S 162	*Neptuno*	18 Aug. 1943	2 Oct. 1944	21 Dec. 1944



NEPTUNO — 1957, *Portuguese Navy, Official*

Notes

" S " Class submarines all purchased from Great Britain in 1948. All built by Cammell Laird & Co. Ltd., Birkenhead. Designed for offensive operations in confined waters

Pennant numbers are now painted on the conning towers.

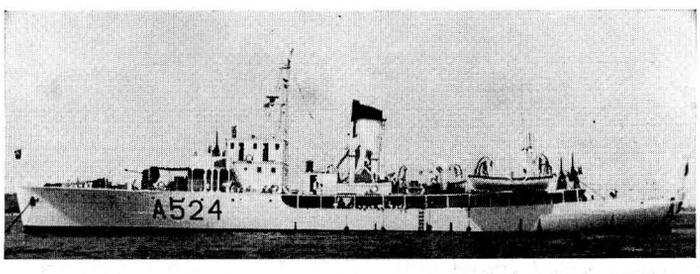
The 20 mm. Oerlikon gun and three Vickers gas operated machine guns formerly carried have been removed (officially stated 1961).

SURVEYING VESSELS (*Navios Hidrograficos*)

1 Ex-British "Flower" Class Frigate

CARVALHO ARAÚJO (ex-*Terje Ten*, ex-*Commandant Drogou*, ex-*Chrysanthemum*)

Displacement:	1,020 tons *standard* (1,340 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 33 × 14½ (*mean*), 16½ (*max.*) feet
Guns:	1—3 inch, 4—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts.
Boilers:	2 cylindrical
Oil fuel:	288 tons
Complement:	39 (normal)

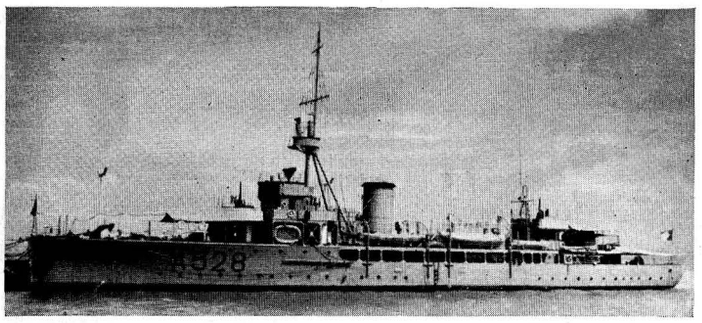


CARVALHO ARAÚJO — 1961, *Portuguese Navy, Official*

Notes

Former British corvette (later re-rated as a frigate) of the " Flower " class. Built by Harland & Wolff Ltd., Belfast. Laid down on 17 Dec. 1940, launched on 11 Apr. 1941, and completed on 26 Jan. 1942. Served in the French Navy during the Second World War. Sold out of the service after hostilities. Purchased by the Portuguese Navy from the Hector Whaling Com pany, at Capetown, in Mar. 1959, and later equipped as a surveying vessel to replace the former *Carvalho Araújo* (ex-British " Flower " class minesweeping sloop *Jonquil*) which was discarded in 1959. Pennant No.: A 524.

Surveying Vessels—*continued*



PEDRO NUNES 1961, *courtesy Eugenio A. Cavalheiro*

2 "Pedro Nunes" Class Ex-Frigates (Second Class Sloops)

JOÃO DE LISBOA (ex-*Infante D. Henrique*) **PEDRO NUNES**

Displacement:	*João de Lisboa* : 1,1091 tons *standard* (1,218 tons *full load*) *Pedro Nunes* : 1,090 tons *standard* (1,197 tons *full load*)
Dimensions:	*João Lisboa*: 234½ (*pp.*), *Pedro Nunes*: 223 (*pp.*) × 32⅔ × 9½ (*mean*), 10½ (*max.*) feet
Guns:	1—4·7 inch, 50 cal., 4—20 mm. AA. (see *Gunnery Notes*)
Machinery:	2 sets M.A.N. 8 cycle diesels. B.H.P.: 2,400=16·5 kts.
Oil fuel:	110 tons *normal*, 126 tons *max.*
Radius:	6,000 miles at 13 kts. (officially revised figures)
Complement:	*Joao de Lisboa*: 74. *Pedro Nunes*: 52 (normal)

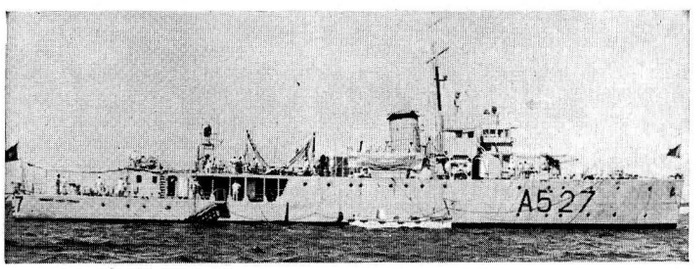
General Notes

Unlike *João de Lisbon*, her sister ship, *Pedro Nunes* is not part of the ten-year programme introduced in 1930. Formerly rated as frigates or second class sloops (*avisos de segunda classe*) but *Pedro Nunes* was converted into a surveying vessel in 1956, and *João de Lisboa* was converted into a surveying vessel in Mar 1961.

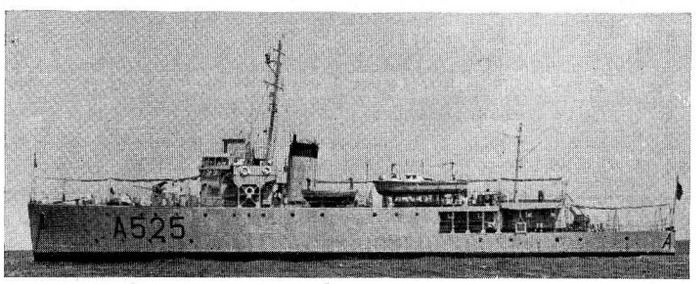
Gunnery Notes

The forward 4·7 inch gun was removed from *Pedro Nunes* in 1956, and the forward 4·7 inch gun and the four depth charge throwers were removed from *João de Lisboa* in Mar 1961 when she was converted into a surveying vessel.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
A 5200	*João de Lisboa*	Naval Arsenal, Lisbon	18 Apr. 1934	21 May 1936	1 Aug. 1937
A 528	*Pedro Nunes*	Naval Arsenal, Lisbon	14 Nov. 1931	17 Mar. 1934	1 Apr. 1935



COMANDANTE ALMEIDA CARVALHO 1961, *Portuguese Navy, Official*



ALMIRANTE LACERDA 1961, *courtesy Lieut. Guerreiro de Amorin, P.N.*

2 Ex-British "Bangor" Class Fleet Minesweepers

ALMIRANTE LACERDA (ex-*Caraquet*)
COMANDANTE ALMEIDA CARVALHO (ex-*Fort York*, ex-*Mingan*)

Displacement:	672 tons *standard* (900 tons *full load*)
Dimensions:	171½ (*pp.*), 180 (*o.a.*) × 28½ × 9½ (*max.*) feet
Guns::	1—3 inch, 2—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,400=16 kts.
Boilers:	2, of 3-drum small-tube type
Oil fuel:	160 tons
Complement:	*Almirante Lacerda*: 46. *Comandante Almeida Carvalho*: 83

Notes

Former British fleet minesweepers of the "Bangor" class, steam type. Built in Canada, launched on 2 June and 24 Aug. 1941, and purchased from Great Britain in 1946 and 1950 respectively. Pennant numbers A 525 and A 527, respectively. A port bow view of *Comandante Almeida Carvalho* appears in the 1953-54 to 1957-58 editions, and a starboard bow view of *Almirante Lacerda* in the 1958-59 to 1960-61 editions.

1 Ex-British "Isles" Class Minesweeping Trawler

SALVADOR CORREIA (ex-*Saltarelo*)

Displacement:	545 to 560 tons *standard* (770 to 800 tons *full load*)
Dimensions:	152 × 27½ × 15 feet
Guns:	1—3 inch, 2—20 mm. AA., D.C. carried
Machinery:	Triple expansion. I.H.P.: 850=12 kts.
Complement:	54

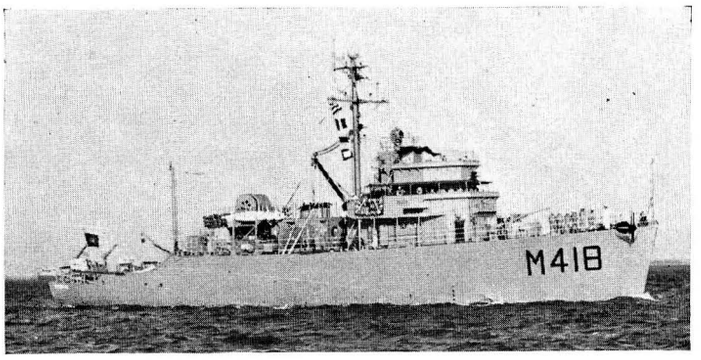
Notes

Former minesweeping trawler. Built by Henry Robb Ltd., Leith. Laid down on 12 Jan. 1940, launched on 6 Aug. 1940 and completed on 19 Oct. 1940. Purchased from Great Britain in 1948, *Salvador Correia* was formerly rated as a patrol vessel (*Navio Patrulheiro*) and subsequently as a minesweeper (*caca-minas*). Pennant No. A 522. Her former pennant number was given to a coastal minesweeper of the "S. Roque" class.

Disposal Notes

Sister ship *Baldaque da Silva* (ex-*Ruskholm*) was scrapped on 12 May 1961.

OCEAN MINESWEEPERS (*Draga-minas oceânicos*)



CORVO 1961, *Portuguese Navy, Official*

4 "S. Jorge" Class Ex-U.S. MSO Type

CORVO (ex-U.S.S. *MSO* 487) **PICO** (ex-U.S.S. *MSO* 479)
GRACIOSA (ex-U.S.S. *MSO* 486) **S. JORGE** (ex-U.S.S. *MSO* 478)

Displacement:	665 tons *standard* (750 tons *full load*)
Dimensions:	165 (*pp.*), 172 (*o.a.*) × 35 × 10 (*mean*) feet
Guns:	1—40 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,600=13·5 kts. (*max.*), 10 kts. economical speed
Oil fuel:	46 tons
Radius:	3,800 miles at 10 kts. (officially revised figures)
Complement:	69 (normal)

General Notes

Former American "MSO 421" class ocean minesweepers built in the United States under the Mutual Defense Assistance Program by Burger Boat Co., Manitowoc, Wisconsin and Bellingham Shipyard Co. The completion dates given in the table below are officially commissioning dates. Constructed of wooden and non-magnetic materials.

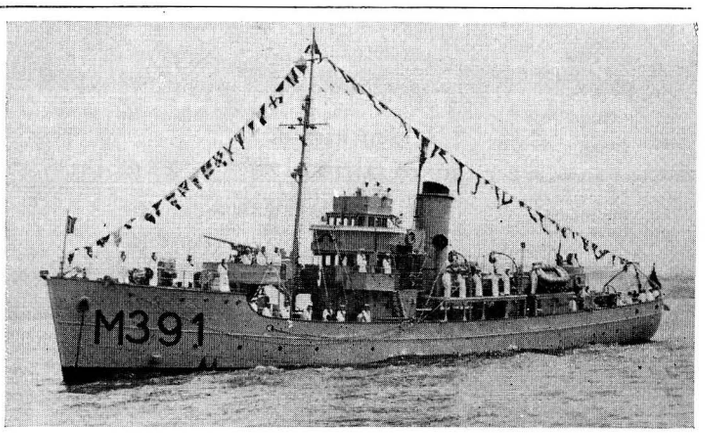
A port bow view of *S. Jorge* appears in the 1960-61 edition.

Engineering Notes

The diesels, of non-magnetic stainless steel alloy, are model 8-278A, two stroke cycle, non-reversible, 8 cylinder V engines. Controllable pitch propellers are fitted.

Pennant No.	*Name*	*Builders:*	*Laid down*	*Launched*	*Completed*
M 418	*Corvo*	Burger Boat Co.	18 Aug. 1953	28 July 1954	23 Nov. 1955
M 417	*Graciosa*	Burger Boat Co.	16 May 1953	19 Nov. 1953	15 Aug. 1955
M 416	*Pico*	Bellingham S.Y. Co.	1 Oct. 1953	18 June 1954	1 June 1955
M 415	*S. Jorge*	Bellingham S.Y. Co.	26 Aug. 1953	30 Apr. 1954	24 Apr. 1955

MINESWEEPERS (*Caça-Minas*)



FAIAL 1961, *Portuguese Navy, Official*

2 "Santa Maria" Class Ex-British "Isles" Class Minesweeping Trawlers

FAIAL (ex-*Mangrove*) **SANTA MARIA** (ex-*P* 4, ex-*Whalsay*)

Displacement:	545 to 560 tons (770 to 800 tons *full load*)
Dimensions:	152 × 27½ × 15 feet
Guns:	1—3 inch, 2—20 mm. AA., D.C. carried
Machinery:	Triple expansion. I.H.P.: 850=12 kts.
Complement:	53 (normal)

Notes

Minesweeping trawlers purchased from Great Britain in 1945 and 1947, and named after islands in the Azores. Originally classified as patrol vessels but subsequently rated as minesweepers. Their former pennant numbers were given to the "S. Roque" class. Of four sister ships, *S. Miguel* (ex-*Brurey*) was discarded in 1956 and *Terceira* (ex-*Hayling*) was discarded in 1957, while *Baldaque da Silva* (ex-*Ruskholm*) and *Salvador Correia* (ex-*Saltarelo* were reclassified as surveying vessels. A starboard broadside view of *Santa Maria* appears in the 1956-57 to 1960-61 editions.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
M 391	*Faial*	Ferguson Bros. Ltd.	18 Aug. 1939	15 Feb. 1940	23 Apr. 1940
M 392	*Santa Maria*	Cook, Welton & Gemmell	19 Dec. 1941	4 Apr. 1942	4 Sep. 1942

AUXILIARY GUNBOAT (*Canhoneira*)

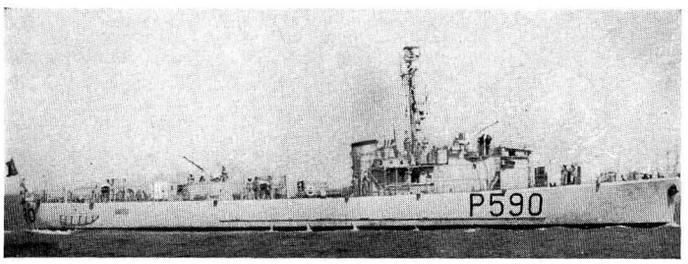
DIO

Displacement:	397 tons *standard* (492 tons *full load*)
Dimensions:	147⅔ × 27½ × 7 feet
Guns:	2—3 inch, 40 cal. (Armstrong), 2—47 mm.
Machinery:	Triple expansion. 2 shafts. H.P.: 700=13 kts
Boilers:	Yarrow
Coal:	85 tons
Radius:	3,200 miles at 9 kts.
Complement:	67

Notes

Built at Lisbon Dockyard. Launched in Oct. 1929. Now employed as a training ship for Portuguese naval reservists and ancillary forces, and classed as an auxiliary with an auxiliary pennant number, A 5205

PATROL VESSELS (*Patrulhas*)



BRAVA 1958, *Portuguese Navy, Official*

8 "Maio" Group U.S. PC Type
5 Portuguese Built

BOAVISTA **FOGO** **SANTA LUZIA**
BRAVA **SANTO ANTÃO**

Displacement:	366 tons *standard* (400 tons *full load*)
Dimensions:	170 (*pp.*), 173¾ (*o.a.*) × 23⅛ × 9⅞ (*mean*) feet
Guns:	2—40 mm. AA., 2—20 mm. AA.
A/S weapons:	1 Hedgehog, 4 depth charge throwers, 2 depth charge tracks
Machinery:	4 SEMT-Pielstick diesels (4-stroke, 14 cylinder V). 2 shafts. B.H.P.: 3,500=19 kts.
Oil fuel:	45 tons
Radius:	3,900 miles at 12 kts.
Complement:	62 (normal)

Notes

Submarine chasers of the U.S. PC type. Built in Portugal under the U.S. off-shore procurement programme. Of all-welded construction, *Brava* and *Fogo* were built in dry-dock and were floated out on 2 May 1956. *Boavista* was commissioned on 17 May 1956 at Figueira da Foz.

Pen. No.	*Name*	*Builders*	*Launched*	*Completed*
P 592	*Boavista*	Estaleiros Navais do Mondego	10 July 1956	17 May 1957
P 590	*Brava*	Estaleiros Navais de Viana do Castelo	2 May 1956	27 Dec. 1956
P 591	*Fogo*	Estaleiros Navais de Viana do Castelo	2 May 1956	11 Apr. 1957
P 594	*Santa Luzia*	Arsenal do Alfeite	17 Jan. 1957	24 Oct. 1958
P 593	*Santo Antao*	Arsenal do Alfeite	8 June 1956	30 Dec. 1957



S. NICOLAU 1961, *Portuguese Navy, Official*

3 French Built

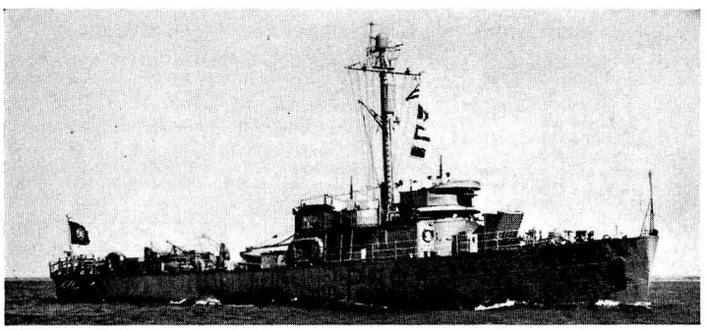
MAIO (ex-*Funchal*, ex-*P 4*) **PORTO SANTO** (ex-P 5) **S. NICOLAU** (ex-*P 8*)

Displacement:	366 tons *standard* (400 tons *full load*)
Dimensions:	170 (*pp.*), 173¾ (*o.a.*) × 23⅛ × 9⅞ feet
Guns:	2—40 mm. AA., 2—20 mm. AA.
A/S weapons:	1 Hedgehog. 4 D.C.T. 2 depth charge tracks
Machinery:	4 SEMT-Pielstick diesels. 2 shafts. B.H.P.: 3,240=17·5 kts.
Radius:	4,000 miles at 10 kts. (officially revised figures)
Complement:	62

Notes

These three patrol vessels of U.S. PC design were built in France as a United States offshore procurement order under the Mutual Defense Assistance Program. Fitted with two mine rails. A port quarter view of *S. Nicolau* appears in the 1956-57 to 1960-61 editions.

Pennant No.	*Name*	*Builders*	*Launched*
P 587	*Maio*	Dubigeon, Nantes	27 Sep. 1954
P 588	*Porto Santo*	Normand (Le Havre)	9 Feb. 1955
P 589	*S. Nicolau*	Normand (Le Havre)	7 June 1955



SAL 1960, *Portuguese Navy, Official*

6 " Principe " Class. Ex-U.S. PC Type

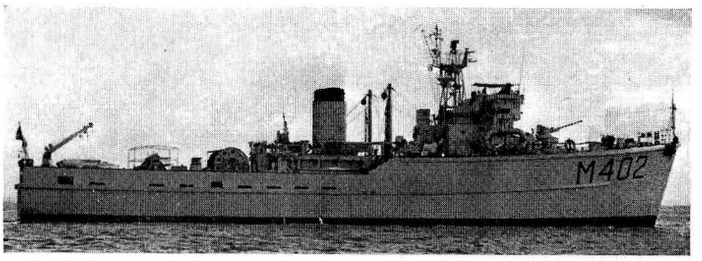
P 581 **PRINCIPE** (*ex-Flores*, ex-*PC* 812) P 583 **SANTIAGO** (*ex-PC* 1257)
P 582 **MADEIRA** (*ex-PC* 811) P 585 **S TOME** (*ex-PC* 1256)
P 584 **SAL** (*ex-PC* 809) P 586 **S. VICENTE** (*ex-PC* 1259)

Displacement:	318 tons *standard* (357 tons *full load*) officially revised figures
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 7½ feet
Guns:	1—40 mm. AA., 3—20 mm. AA. (see notes)
A/S weapons:	1 Hedgehog. 4 depth charge throwers. 2 depth charge tracks
Machinery:	2 Hamilton 2-stroke diesels. 2 shafts. B.H.P.:3,500=19 kts.
Complement:	62 (normal)

Notes.

Purchased from United States. Named after Portuguese Atlantic islands. For patrol and Air/Sea Rescue duties in Azores, Madeira, and off Portuguese coast. The armament of these ships was modified in 1957, anti-submarine weapons being added and the 3 inch gun and two 20 mm. guns being removed. A photograph of *Santiago* appears in the 1955-56 to 1959-60 editions.

COASTAL MINESWEEPERS (*Draga-Minas Costeiros*



RIBEIRA GRANDE 1961, *Portuguese Navy, Official*

4 " S. Roque " Class (" Ton " Type)

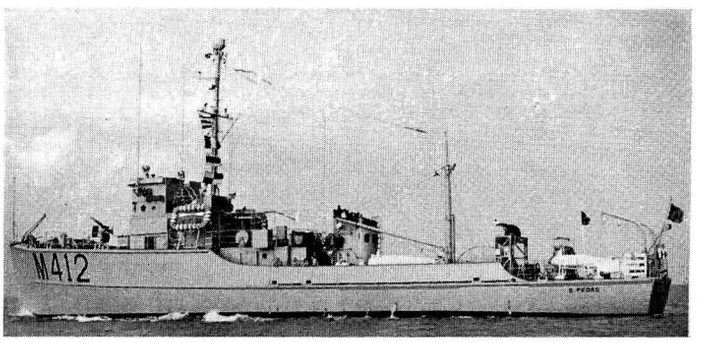
LAGOA **RIBEIRA GRANDE** **ROSARIO** **S. ROQUE**

Displacement:	360 tons *standard* (425 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a*) × 28¾ × 7 feet
Guns:	1—40 mm. AA., 2—20 mm. AA. (twin mount)
Machinery:	2 Mirrlees diesels 2 shafts. B.H.P.: 1,250=15 kts.
Complement:	47

Notes

Similar to the British " Ton class of coastal minesweepers, but built in Portugal. All laid down at C.U.F. Shipyard, Lisbon, on 7 Sep. 1954, under the OSP-MAP. *Lagoa* and *S. Roque* were financed by U.S.A., and the other two by Portugal. A starboard bow view of *S. Roque* appears in the 1957-58 edition, and a port bow view of *Lagoa* in the 1958-59 to 1960-61 editions.

Pennant No.	*Name*	*Launched*	*Completed*
M 403	*Lagoa*	15 Sep. 1955	10 Aug. 1956
M 402	*Ribeira Grande*	14 Oct. 1955	8 Feb. 1957
M 404	*Rosario*	29 Nov. 1955	8 Feb. 1956
M 401	*S. Roque*	16 Aug. 1955	4 June 1956



S. PEDRO 1961, *Portuguese Navy, Official*

8 "Ponta Delgada" Class

ANGRA DO HEROISMO (ex-U.S.S. *AMS* 62) **SANTA CRUZ** (ex-U.S.S. *AMS* 92)
HORTA (ex-U.S.S. *AMS* 61) **S. PEDRO** (ex-S. *Roque*, ex-*AMS* 147)
LAJES (ex-U.S.S. *AMS* 146) **VELAS** (ex-U.S.S. *AMS* 145)
PONTA DELGADA (ex-U.S.S. *Adjutant*, *AMS* 60) **VILA DO PORTO** (ex-U.S.S. *AMS* 91)

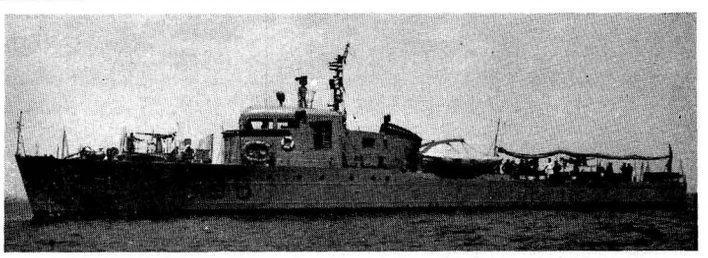
Displacement:	375 tons
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 27 × 8 feet
Guns:	2—20 mm. AA. (twin mount)
Machinery:	General Motors diesels. B.H.P. 900=14 kts.
Complement:	40 (normal)

Notes

Of wooden and non-magnetic construction. *Ponta Delgada* was transferred from the United States on 7 Apr. 1953. First of group of AMS 60 class motor minesweepers specially constructed for NATO nations. Four more were delivered in 1953-54, and the remaining three in 1955. A starboard broadside view of *Horta* appears in the 1957-58 to 1960-61 editions.

Pennant Nos.: M 407 (*Angra do Heroismo*), M 406 (*Horta*), M 405 (*Ponta Delgada*), M 409 (*Santa Cruz*), M 408 (*Vilado Porto*), M 410 (*Velas*), M 411 (*Lajes*), M 412 (*S. Pedro*).

FISHERY PROTECTION LAUNCHES
(*Lanchas de Fiscalização da Pesca*)



AZEVIA 1960, *Portuguese Navy, Official*

5 "Azevia" Class

AZEVIA **BICUDA** **CORVINA** **DOURADA** **ESPADILHA**

Displacement:	230 tons (270 tons *full load*) officially revised figures
Dimensions:	134½ (*pp.*), 139¾ (*o.a.*) × 21½ × 7 (*max.*) feet
Guns:	2—20 mm. AA.
Machinery:	2 sets 7-cyl. 2-stroke Sulzer diesels in all except first pair, which have 2 sets 10-cyl. 4-stroke M.A.N. diesels. 2 shafts. B.H.P.: 2,400=17 kts.
Oil fuel:	25 tons
Radius:	3,700 miles at 11 kts., 850 miles at full speed
Complement:	37 (normal)

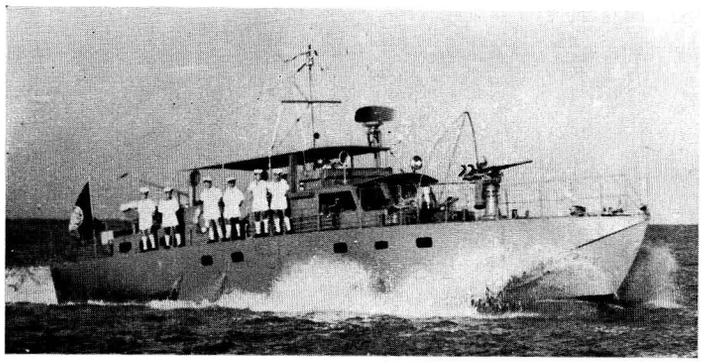
Notes

All launched in 1941-42. Formerly differentiated by initials of names painted on bows, but now by pennant numbers as follows: *Azevia* P 595, *Bicuda* P 596, *Corvina* P 597, *Dourada* P 598, *Espadilha* P 599. A photograph of *Bicuda* appears in the 1953-54 to 1959-60 editions.

Recent Disposals

The two rescue motor launches (*lanchas de socorro*) of the ex-British type, *Canopus* and *Espiga*, were discarded in Sep. 1959 and Dec. 1959, respectively. *Deneb* and *Formalhaut* were discarded in 1957. *Altair* was scrapped in 1955.

PATROL LAUNCHES (*Lanchas de Fiscalização*)



BELIATRIX — 1962, *Portuguese Navy, Official*

8 New Construction

ARGOS **DRAGÃO** **HIDRA** **ORION**
CASSIOPEIA **ESCORPIÃO** **LIRA** **PEGASO**

Displacement:	130 tons *standard* (170 tons *full load*)
Dimensions:	131¼ (*p.p.*), 136¾ (*o.a.*) × 20½ × 6 feet
Guns:	1 or 2—40 mm. AA.
Machinery:	2 Mayback diesels. B.H.P.: 1,200 = 18 kts.
Oil fuel:	16 tons
Complement:	19

Notes

Four built by Arsenal do Alfeite, Lisbon, and four by Estaleiros Navias de Viana do Castelo. Five scheduled to be completed and commissioned during 1962 and the remaining three in 1963. Named after constellations. Pennant numbers not yet assigned.

8 "Bellatrix" Class

ALTAIR P 377 **DENEB** P 365 **FOMALHAUT** P 367
BELLATRIX P 363 **ESPIGA** P 366 **POLLUX** P 368
CANOPUS P 364 **RIGEL** P 378

Displacement:	23 tons *light* (29 tons *full load*)
Dimensions:	62¾ (*w.l.*), 68 (*o.a.*) × 15⅛ × 4 feet
Guns:	1—20 mm. Oerlikon AA.
Machinery:	2 NRTO-G-M Cummins diesels. B.H.P.: 470 = 15 kts.
Radius:	650 miles
Complement:	6

Notes

Built in Germany by Bayerische Schiffbaugesellschaft. Commissioned on 13 Jan. 1962, 29 May 1961, 29 May 1961, 15 June 1961, 4 Aug. 1961, 4 Aug. 1961, 23 Aug. 1961 and 13 Jan. 1962, respectively. One more unit of this class, of much the same characteristics but with a speed of 20 knots, is to be built in 1962.



ANTARES — 1960, *courtesy Geoffrey Wood, Esq., Designer*

2 "Antares" Class

ANTARES P 360 **REGULUS** P 369

Displacement:	18 tons
Dimensions:	56 (*o.a.*), 51½ (*w.l.*) × 15¼ × 4 (*aft.*) feet
Guns:	1—20 mm. Oerlikon quick firing AA.
Machinery:	2 Cummins diesels. 2 shafts. B.H.P.: 460 = 18¼ kts. (*max.*)
Radius:	600 miles at full power (officially revised figure)
Complement:	6

Notes

Antares, *Sirius* and *Vega* were built in 1959 by James Taylor (Shipbuilders) Ltd., Shoreham, Sussex, England, and commissioned in that year. Hull of Deborine resin-glass fibre moulding. *Regulus* was built in Portugal by Navalis Shipyard, the hull being imported from England. She was commissioned on 27 Jan. 1962.

Sister boats *Sirius* and *Vega* were lost in action in Dec. 1961 during the Indian invasion of Goa.

RIO MINHO

Displacement:	13·5 tons
Dimensions:	49¼ × 10½ × 2½ feet
Guns:	2 M.G.
Machinery:	2 Alfa Romeo engines. B.H.P.: 130 = 9 kts.
Complement:	8

Notes

Built at Arsenal do Alfeite in 1955-57 for patrol of the River Minho on the Spanish border Pennant number P 370.

TÉTE

Displacement:	100 tons
Dimensions:	76⅔ × 20 × 2¼ feet
Guns:	2—47 mm., 2 M.G.
Machinery:	Stern-wheel propulsion H.P.: 70 = 8 kts.
Boilers:	1 Yarrow

Notes

Built by Yarrow & Co., Ltd., Scotstoun, Glasgow. Launched in 1918. Re-launched at Chinde in 1920. Employed on Zambesi River. Formerly rated as a river gunboat (*lancha-canhoneira*) but re-rated as a patrol boat (*lancha de fiscalização*) in 1960 with the pennant number P 371.

LIGHTHOUSE TENDER (*Navio Balizador*)

ALMIRANTE SCHULTZ

Displacement:	538 tons (officially revised figure)
Dimensions:	131¼ × 31 × 10¾ feet
Machinery:	2 Sets Rateau diesels. B.H.P.: 1,950 = 9 kts.
Oil fuel:	21 tons
Complement:	50 (normal)

Notes

Built at Penhoet dockyard. Launched in 1929. Photograph in the 1953-54 to 1957-58 editions. Pennant number A 521.

DIVING TENDER (*Navio-apoio de mergulhadores*)



MEDUSA — 1960, *Portuguese Navy, Official*

1 Ex-U.S. LSM Type

MEDUSA (ex-U.S.S. *Portunus*, *ARC*, 1 ex-U.S.S. *LSM* 275, ex-*LCT* (7) 1773)

Displacement:	743 tons *standard* (1,220 tons *full board*)
Dimensions:	196½ (*pp.*), 221 1/16 (*o.a.*) × 34½ × 10½ (*loaded*) feet
Machinery:	General Motors direct drive diesels. 2 shafts. B.H.P.: 2,800 = 12·2 kts. (*max.*)
Radius:	5,240 miles at 10 kts.
Complement:	44

Notes

Former United States medium landing ship of the LSM type. Built by Federal Shipbuilding and Drydock Co., Newark, New Jersey. Laid down on 1 Aug. 1944, launched on 11 Sep. 1944, and completed on 6 Oct. 1944. Converted to a cable repairing or laying ship by the U.S. Navy in 1952. Transferred to the Portuguese Navy under the Military Assistance Program in 1959. Delivered to Portugal on 16 Nov. and commissioned on 18 Nov. Pennant No.: A 5214.

LANDING CRAFT (*Lanchas de desembarque*)

LD 1 **LD 2** **LD 3**

Displacement:	12 tons (*light*) approximately

Notes

These three landing craft of the LCA type, of about 12 tons light displacement were built at Estaleiros Navais de Mondego and were commissioned on 29 Apr. 1961 (first two) and 16 June 1961. Two more of the same type will be built during 1962, as well as one LCM (7) type and two LCT (4) type.

TRAINING SHIP (*Navio-Escola*)

SAGRES (ex-*Guanabara*, ex-*Albert Leo Schlageter*)

Displacement:	1,415 tons (1,869 tons *full load*)
Dimensions:	229⅔ (*pp.*), 249 (*o.a.*) × 39⅓ × 17 feet
Sail area:	20,793 sq. ft.
Height of mast:	142 feet
Machinery:	2 MAN auxiliary diesels. B.H.P.: 750 = 10 kts.
Oil fuel:	52 tons

Notes

Former German sail training ship. Built by Blohm & Voss, Hamburg. Launched in June 1937 and completed on 1 Feb. 1938. Sister of United States Coast Guard training ship *Eagle* (ex-German *Horst Wessel*). Taken by the United States as a reparation after the Second World War in 1945 and sold to Brazil in 1948. Purchased from the Brazilian Navy and commissioned in the Portuguese Navy on 8 Feb. 1962 at Rio de Janiero and renamed *Sagres*. Pennant No. A 520 (all the above particulars were officially furnished by the Portuguese naval authorities in 1962).

DEPOT SHIP

SANTO ANDRÉ (ex-*Sagres*, ex-*Flores*, ex-*Max*, ex-*Rickmer Rickmers*)

Displacement:	3,067 tons (3,176 tons *full load*)
Dimensions:	263½ × 40½ × 19 feet
Guns:	4—47 mm. saluting
Machinery:	2 Krupp diesels. 2 shafts. B.H.P.: 700 = 8 kts.
Complement:	209 (normal) + 196 personnel under training

Notes

Former German sailing vessel. Built at Bremerhaven. Launched in 1896. Captured during the First World War. Re-rigged as a barque and adapted as a naval training ship during 1924-27. Auxiliary motors were fitted in 1931. Reclassified as a depot ship and renamed *Santo André* by a governmental decree of 31 Jan. 1962 with the new pennant No. A 5207. She was replaced by the training ship *Guanabara*, purchased from the Brazilian Navy and included in the Portuguese Navy on 8 Feb. 1962, which took the name and pennant number (A 520) of the former *Sagres*.

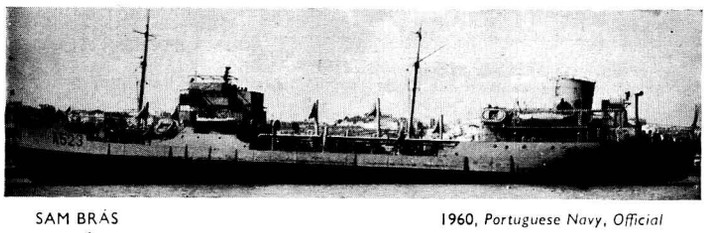
FLEET OILERS (*Navios Petroleiros*)

S. GABRIEL

Displacement:	14,200 tons
Measurement:	9,500 tons *gross*, 9,000 tons *deadweight*
Dimensions:	452¾ (*pp.*), 479 (*o.a.*) × 59¾ × 26¼ (*loaded*) feet
Machinery:	1 Parametrada geared steam turbine. S.H.P.: 9,500 = 17 kts.
Radius:	6,000 miles at 15 kts.

Notes

Built at Estaleiros Navais de Viana do Castelo. Completed in 1962. Pennant No. A 5206.



SAM BRÁS — 1960, *Portuguese Navy, Official*

SAM BRÁS

Measurement:	7,000 tons *gross*, 3,500 tons *deadweight*
Dimensions:	336¼ (*pp.*), 356¾ (*o.a.*) × 50¾ × 18 (*max.*) feet
Machinery:	B. & W. 2-stroke diesel. B.H.P.: 2,820 = 12 kts.
Oil fuel:	568 tons (officially revised figures)
Radius:	6,000 miles at 12 kts.
Complement:	70 (normal)

Notes

Built at the Arsenal do Alfeite. Laid down on 22 Feb. 1941. Launched on 17 Mar. 1942. Pennant No.: A 523. (A small oiler, ex-U.S.S. YO 194, is loaned to Portugal by the U.S.A. under MAP.).

RUMANIA

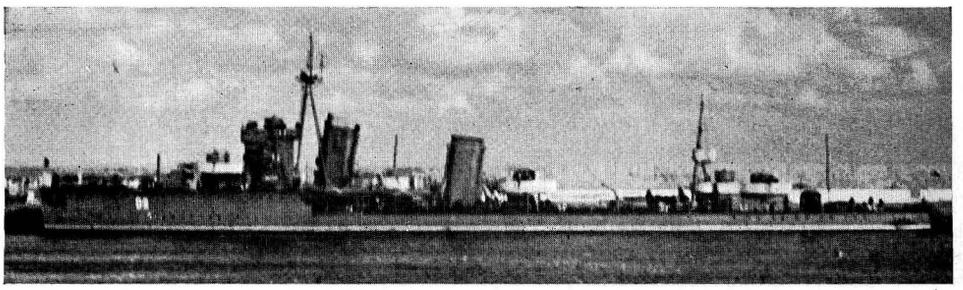
DESTROYERS (*Distrugătoáre*)

2 Thornycroft Type

D 9 (ex-*D 21*, ex-*Letuchi*, ex-*Regina Maria*)
D 10 (ex-*D 22*, ex-*Likhoi*, ex-*Regele Ferdinand*)

Name:	*D 9*	*D 10*
Pennant No.:	*D 9*	*D 10*
Builders:	Pattison, Naples	Pattison, Naples
Launched:	2 Mar. 1929	2 Dec. 1928

Displacement:	1,400 tons *standard* (1,850 tons *full load*)
Dimensions:	334½ × 31½ × 11½ fee:
Guns (Bofors):	5—4·7 inch, 50 cal., 1—3 inch AA., 2—40 mm. AA., 3 M.G.
Tubes:	6—21 inch (tripled)
A/S weapons:	4 D.C.T.
Mines:	50
Machinery:	Parsons geared turbines by Stab. Tecnico Triestino. 2 shafts. S.H.P.: 42,000=38 kts.
Boilers:	4 water tube
Oil fuel:	400 tons
Radius:	3,000 miles at 10 kts.
Complement:	212



D 9 — 1960, *courtesy Mr. P. H. Silverstone*

Notes
Built at Naples to the design of John I. Thornycroft & Co. Ltd., Woolston, Southampton. Returned to Rumania in 1953 by U.S.S.R. by whom they were captured from the Rumanian Navy in 1944. It was reported that they were re-armed. Now over age and obsolescent.

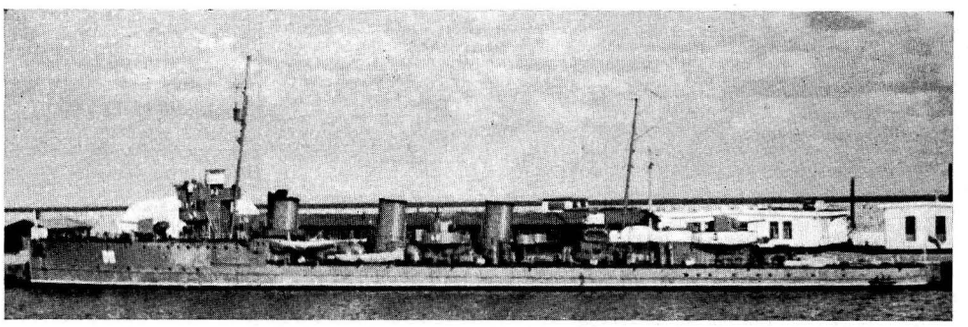
Cruiser Notes
The old light cruiser *Kertch* (ex-*Stalingrad*, ex-Z 15, ex-*Emanuele Filiberto Duca D'Aosta*) was reported to have been lent or leased by U.S.S.R. to the Rumanian Navy. But in 1961 it was reported that *Kertch* is being scrapped. See U.S.S.R. section, 1959-60 edition.

2 Italian Type

MĂRĂŞTI (*ex*-Italian *Sparviero*)
MĂRĂŞEŞTI (*ex*-Italian *Nibbio*)

Name:	*Mărăşti*	*Mărăşeşti*
Pennant No.:	D 11	D 12
Builders:	Pattison, Naples	Pattison, Naples
Launched:	1919	1918

Displacement:	1,390 tons *standard* (1,723 tons *full load*)
Dimensions:	309½ (*pp.*) × 31 × 11½ feet
Guns:	4—4·7 inch, 2—37 mm. AA., 2 M.G.
Tubes:	4—17·7 inch in twin deck mountings
Machinery:	2 Tosi turbines. 2 shafts. Designed S.H.P.: 45,000=34 kts.
Boilers:	5 Thornycroft oil-burning
Oil fuel:	260 tons
Radius:	1,700 miles at 15 kts., 380 miles a full speed
Complement:	139



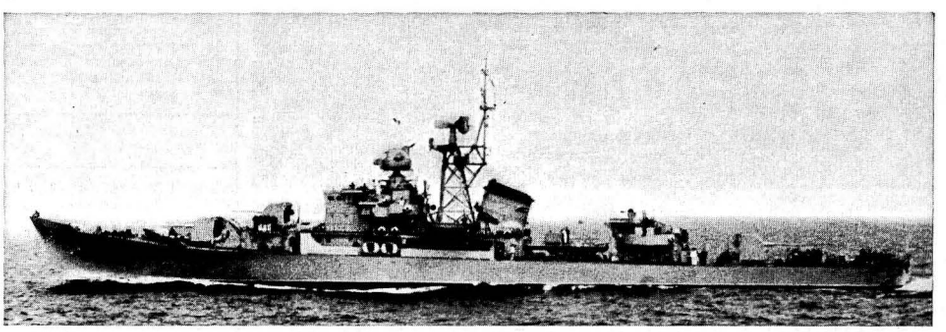
MARASTI — 1960, *courtesy Mr. P. H. Silverstone*

Notes
Ordered for the Rumanian Navy in 1913, and requisitioned by Italy in 1915. They were re-purchased by Rumania in 1920, and renamed after actions fought in 1917. Refitted and rearmed at Galatz and Naples in 1925-26. Equipped for minelaying. Now well over age and obsolete, and soon to be scrapped at Constanta. One reported scrapped.

FRIGATES

6 Ex-U.S.S.R. " Riga " Class

Displacement:	950 tons *standard* (1,350 tons *full load*)
Dimensions:	278¾ × 29½ × 10 fee:
Guns:	3—3·9 inch AA., 8—37 mm. AA.
Tubes:	3—21 inch
A/S weapons:	4 D.C.T.
Mines:	50
Machinery:	Geared turbines. 2 shafts. S.H.P.: 24,000=28 kts.
Oil fuel:	2
Boilers:	300 tons
Complement:	190



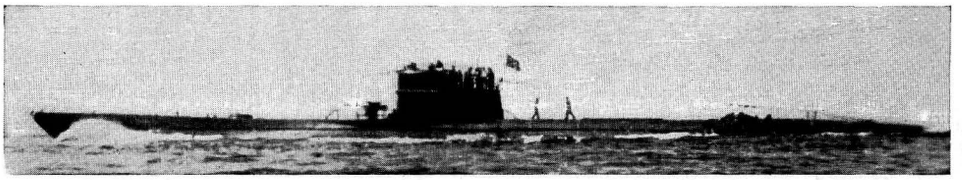
RIGA Class — 1958, *Official*

Notes
Former Soviet escort vessels of the " Riga " class built in 1955 and taken over by Rumania in 1957-58. But the latest reports state that it is questionable whether these units exist in the Rumanian Navy.

SUBMARINES

8 Ex-U.S.S.R. Type

Displacement:	650 tons
Dimensions:	180 × 21 × 14½ feet
Guns:	2—25 mm.
Tubes:	4—21 inch
Machinery:	Diesels. B.H.P.: 3,000=18 kts. (*surface*) Electric motors. H.P.: 2,500=16 kts. (*submerged*)
Radius:	7,000 miles
Complement:	40



MARSUINAL — *Added 1953*

Notes
Former Soviet submarines variously reported to be of the " Shch " class and the improved " Shch " or " Q " class.

MARSUINUL (S2)

Builders:	Galatz Shipbuilding Yard
Laid down:	1938
Launched:	4 May 1941
Completed:	1942
Displacement:	620 tons (*surface*)
Dimensions:	190¼ × 18½ × 11¾ fee:
Guns:	1—4·1 inch (105 mm.), 1—37 mm. AA.
Tubes:	6—21 inch (4 bow, 2 stern), 12 torpedoes carried
Machinery:	Diesels. 2 shafts. B.H.P.: 1,840=16 kts. (*surface*). Electric motors=9 kts. (*submerged*)

Notes
It is reported that this vessel may be disposed of in the near future. Both *Marsuinal* and *Requinul* are Rumanian built to German plans.

REQUINUL (S 1)

Builders:	Galatz Shipbuilding Yard
Laid down:	1938
Launched:	22 May 1941
Completed:	1942
Displacement:	650 tons (*surface*)
Dimensions:	223 × 19½ × 11¾ feet
Guns:	1—20 mm. AA.
Tubes:	4—21 inch (bow)
Mines:	40
Machinery:	Diesels. 2 shafts. B.H.P.: 1,840=17 kts. (*surface*). Electric motors=9 kts. (*submerged*)

Notes
The submarine *Delfinul*, which received considerable damage during the war, and was of doubtful efficiency, was discarded in 1957.

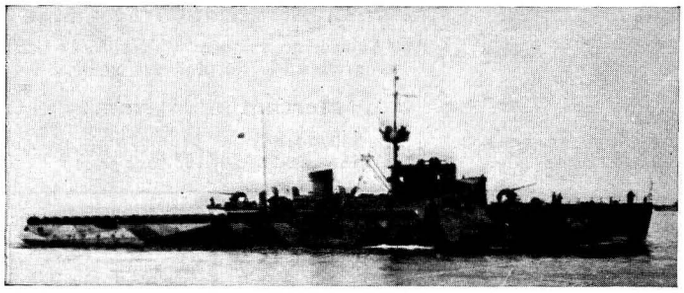
Coastal Submarines

4 Ex-U.S.S.R. " MV " Type

Displacement:	350 tons (*surface*), 420 tons (*full load*)
Dimensions:	167½ × 16 × 12 feet
Guns:	1—45 mm. AA.
Tubes:	2—21 inch
Machinery:	Diesels. B.H.P.: 800 13 kts. (*surface*). Electric motors. H.P.: 400 8 kts. (*submerged*)
Oil fuel:	18 tons
Radius:	3,400 miles at 8 kts. (*surface*). 90 miles at 3 kts. (*submerged*)
Complement:	20

Notes
Former Soviet coastal submarines built in 1940 and taken over by Rumania in 1957.

MINELAYER (*Puitoare de Mine*)



AMIRAL MURGESCU *Erich Gröner*

AMIRAL MURGESCU

Displacement:	812 tons *standard*
Dimensions:	252½ (*o.a.*) × 29½ × 8½ (*mean*) feet
Guns:	2—4 inch D.P., 2—37 mm. AA.
A/S weapons:	2 D.C.T.
Mines:	135
Machinery:	2 Krupp diesels. B.H.P.: 2,100=16 kts
Radius:	3,400 miles at 12 kts.
Complement:	78

Notes
Built by Galatz Shipbuilding Yard. Laid down on 1 Aug. 1938. Launched on 14 June 1939. Completed in 1941.

PATROL VESSELS

3 Ex-U.S.S.R. "Kronstadt" Class

Displacement:	300 tons *standard* (350 tons *full load*)
Dimensions:	167½ × 19½ × 9 feet
Guns:	1—3·4 inch dual purpose forward, 2—37 mm. AA. single aft, 6—12·7 mm. in twin mounts
A/S weapons:	2 ahead throwing launchers, 2 side projectors, 2 depth charge tracks
Machinery:	Diesels. 2 shafts. Speed=27 kts.

Notes
Former Soviet submarine chasers transferred to Rumania from the U.S.S.R.

Disposal Notes
The two old patrol vessels rated as gunboats (*canoniere*), namely *Locotenent-Comandor Stiki Eugen* (ex-French *Friponne*) and *Sublocotenent Ghiculescu* (ex-French *Mignonne*), are now over age and obsolete (see photograph and full particulars in the 1961-62 and earlier editions).

The two very old patrol boats, former Austrian torpedo boats (*torpiloare*), namely *Sborul* (ex-*T* 81) and *Smeul* (ex-*T* 83), are considered to be of no further military value and are being discarded and, it is reported, are to be scrapped (see full particulars in the 1961-62 and earlier editions and photograph in the 1960-61 and earlier editions).

The old river monitors *Ardeal*, *Basarabia*, *Bratianu*, *Bucovina* and *Lahooari*, and the old river gunboats *Closca*, *Cusan*, and *Horia*, are reported to still exist.

MOTOR TORPEDO BOATS

8 Ex-U.S.S.R. "P 4" Class

Displacement:	50 tons
Dimensions:	85½ × 20 × 6 feet
Guns:	4—25 mm. AA.
Tubes:	2—21 inch
Machinery:	Speed=42 kts.

Notes
Former Soviet motor torpedo boats transferred to Rumania from the U.S.S.R.

SUBMARINE DEPOT SHIP (*Navă Bază*)

CONSTANTA

Displacement:	1,329 tons *standard* (2,300 tons *full load*)
Dimensions:	255½ × 37 × 13¼ feet
Guns:	2—4 inch, 2—40 mm.
Machinery:	2 sets Diesels. 2 shafts. B.H.P.: 1,000=13 kts.
Radius:	12,000 miles

Notes
Built by Quarnaro Yard, Fiume. Laid down on 15 Aug. 1927. Launched on 8 Nov. 1928. Completed in 1931. Fitted with engineering and torpedo shops; bakery; torpedo loading room; salvage, diving and submarine signalling apparatus. A photograph of *Constanta* appears in the 1960-61 and earlier editions.

YACHTS (*Jachturi*)

LIBERATEA (ex- *Luceafarul*, ex-*Nahlin*)

Displacement:	2,050 tons
Dimensions:	250 (*w.l.*), 296 (*o.a.*) × 36 × — feet
Machinery:	4 Brown-Curtis geared turbines. 2 shafts. S.H.P.: 4,000=17·5 kts.
Boilers:	2 Yarrow. Oil fuel

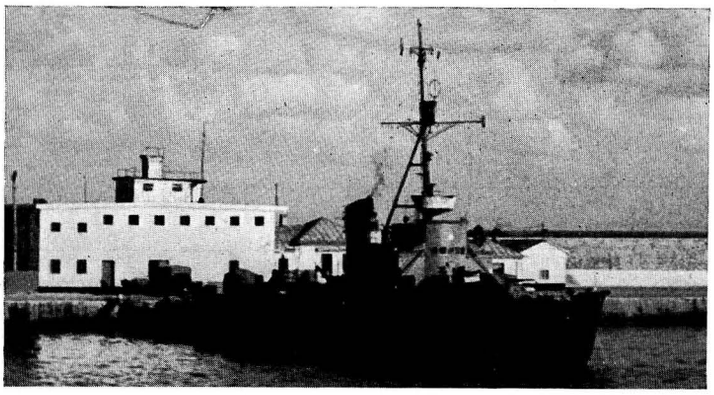
Notes
Former Royal Yacht. Designed by G. L. Watson & Co. Built by John Brown & Co. Ltd., Clydebank, Scotland. Launched in 1930. Purchased in 1937. Subsequently used as a training ship.

TAIFUN

Measurement:	34 tons (*Thames* measurement)
Dimensions:	54 × 12½ × 3 feet
Machinery:	2 petrol motors, 2 shafts

Notes
Built by J. Samuel White & Co. Ltd., Cowes, Isle of Wight, England. Launched in 1938. Of wooden construction.

MINESWEEPERS



D 816 1960, *courtesy Mr. P. H. Silverstone*

14 Ex-German "M 40" Type

DESCATUSARIA DESROBIREA DEMOCRATIA DREPTATEA

Displacement:	543 tons *standard* (775 tons *full load*)
Dimensions:	188 (*pp*), 203½ (*o.a.*) 28 × 7½ (*max.*) feet
Guns:	6—37 mm. AA. (twin)
A/S weapons:	2 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,400=17 kts.
Boilers:	2 three-drum water tube
Fuel:	152 tons coal
Radius:	4,000 miles at 10 kts.
Complement:	80

Notes
Former German "M 40" type coal-burning minesweepers. Built in 1943. Taken over by U.S.S.R. at the end of the Second World War. Transferred to Rumania in 1956-1957. The number of these vessels reported to have been acquired varies from four to fourteen, but photographs of only D 814, D 815 and D 816 (see above) have reached this annual.

INSHORE MINESWEEPERS

22 Ex-U.S.S.R. "T 301" Class

Displacement:	130 tons
Dimensions:	100 × 16 × 4½ feet
Guns:	2—45 mm. AA., 4—12·7 mm. MG.
Machinery:	Diesel. B.N.P.:480=10 kts.
Complement:	30

Notes
Former Soviet coastal minesweepers transferred to Rumania by the U.S.S.R. in 1956-60.

SAIL TRAINING SHIP (*Navă Şcoăld*)

MIRCEA

Displacement:	1,604 tons
Dimensions:	239½ (*o.a.*) 267⅓ (*with bowsprit*) × 39½ × 16½ feet
Sail area:	18,830 sq. ft.
Machinery:	Auxiliary M.A.N. 6-cylinder Diesel. B.H.P.: 500=9·5 kts.
Complement:	83+140 midshipmen for training

Notes
Built by Blohm & Voss, Hamburg. Laid down on 30 Apr. 1938. Launched on 22 Sep. 1938. Completed on 29 Mar. 1939 (delivered). In addition there is the sail training ship *RASARITUL*.
There are some launches on the Danube and some patrol boats in the Black Sea. Reports mention two surveying vessels, three landing ships (one LST and two LSM), ten landing craft (2 LCI and 8 LCT), ten transports and three oilers.

SAUDI ARABIA

A 95-ft. steel-hulled patrol boat of the United States Coast Guard design was transferred to Saudi Arabia in 1960.

SENEGAL

PATROL BOAT

SÉNÉGAL (ex-*P* 700, ex-*CH* 62, ex-U.S. *SC* 1344)

Displacement:	110 tons *standard* (138 tons *full load*)
Dimensions:	107½ (*w.l.*), 110⅝ (*o.a.*) × 17 × 6½ feet
Guns:	1—40 mm. AA., 3—20 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,000=15 kts.
Oil fuel:	15 tons
Radius:	2,000 miles at 10 kts., 1,150 miles at 15 kts.
Complement:	25

Notes
Former American wooden submarine chaser. Transferred from U.S.A. to France on 19 Nov. 1943, and from France to Senegal at Dakar on 12 July 1961. First ship of the new Senegalese naval force.

SIERRA LEONE

The Sierra Leone Naval Volunteer Force is reported to have several small craft in use. (Sierra Leone became independent on 27 Apr. 1961).

SOMALIA

Somalia, which became an independent republic on 1 July, 1960, is reported to have a number of patrol boats.

SOUTH AFRICA

Administration

Chief of Naval Staff:
Rear Admiral H. Biermann, O.B.E., S.A.N.

Naval, Military and Air Attache, London:
Brigadier H. J. Martin, C.B.E., D.F.C.

Naval Liaison Officer, London:
Commander R. C. Cousens, S.A.N.

Naval Base

H.M. Dockyard at Simonstown was transferred to the Union of South Africa on 2 Apr. 1957.

Personnel

1962: 270 officers and 2,730 ratings

New Construction Programme

3 Anti-Submarine Frigates ("Whitby" Class) ordered in 1957 for delivery by 1964.

Mercantile Marine

Lloyd's Register of Shipping:
144 vessels of 261,183 tons *gross*

DESTROYERS

2 "W" Class

JAN VAN RIEBEECK (ex-*Wessex*, ex-*Zenith*)

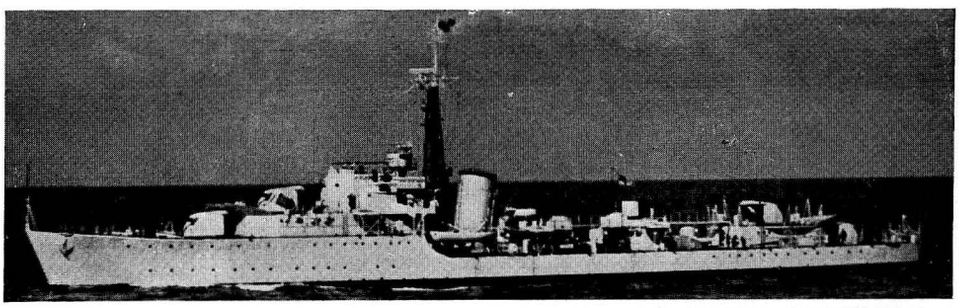
SIMON VAN DER STEL (ex-*Whelp*)

Name:	*Jan van Riebeeck*	*Simon van der Stel*
Pennant No.:	D 278	D 237
Builders:	Fairfield Shipbuilding & Engineering Co. Ltd., Govan, Glasgow.	R. & W. Hawthorn Leslie & Co. Ltd., Hebburn-on-Tyne
Laid down:	20 Oct. 1942	1 May 1942
Launched:	2 Sep. 1943	3 June 1943
Completed:	11 May 1944	25 Apr. 1944

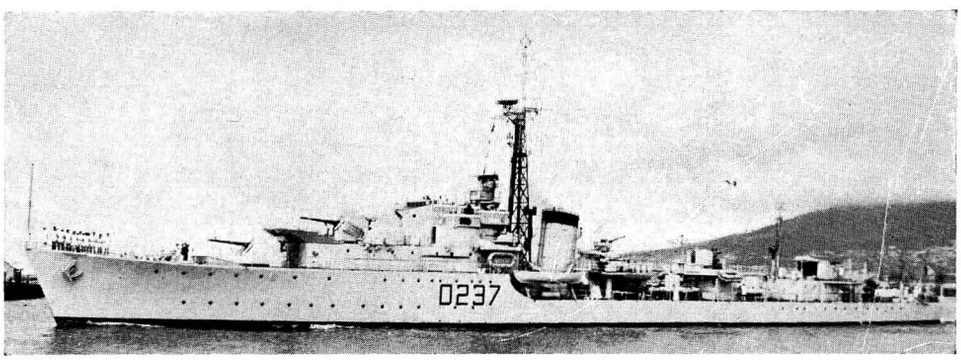
Displacement:	1,710 tons *standard* (2,505 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅔ × 10 (*mean*), 16 (*max.*) feet
Guns	4—4·7 inch, 1—40 mm. Bofors AA 4—2 pdr. pompom, 8—20 mm. Oerlikon AA. *Simon Van der Stel* 4—4·7 inch. 3—40 mm. AA., 4—20 mm. AA.
Tubes:	8—21 inch (quadrupled)
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Complement:	186

Notes

Purchased from Great Britain. *Jan van Riebeeck* was transferred to South Africa on 29 Mar. 1950, and *Simon van der Stel* early in 1952. Both ships are in reserve, but it is reported that they will be modernised.



JAN VAN RIEBEECK — 1954, *South African Navy, Official*



SIMON VAN DER STEL — 1953, *R. M. Scott*

FAST ANTI-SUBMARINE FRIGATE (*ex-Destroyer*)

1 "W" Class. 1st Rate

VRYSTAAT (ex-*Wrangler*)

Pennant No.:	F 157
Builders:	Vickers-Armstrongs, Ltd., Barrow-in-Furness
Laid down:	23 Sep. 1942
Launched:	30 Dec. 1943
Completed:	14 July 1944
Displacement:	2,100 tons *standard* (2,700 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅔ × 16 (*max.*) feet
Guns:	2—4 inch, 2—40 mm. Bofors AA.
A/S weapons:	2 Squid triple barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Complement:	175

Notes

Fully converted into a fast anti-submarine frigate from a fleet destroyer in 1951-52 by Harland & Wolff Ltd., Belfast. Refitted by the Mount Stuart Dry Dock, Ltd., Cardiff, and taken over from the Royal Navy on 29 Nov. 1956, as a unit of the South African Navy and renamed *Vrystaat*. Sailed for South Africa end of Jan. 1957.



VRYSTAAT — 1958, *South African Navy, Official*

Class Notes

Originally a sister ship of *Jan van Riebeeck* and *Simon van der Stel* (see above).

Two further purchases of ships of similar type (one of which was to have been H.M.S. *Roebuck*) were cancelled in 1956.

ANTI-SUBMARINE FRIGATES (*New Construction*)

3 "Whitby" Class. 1st Rate

	PRESIDENT KRUGER	**PRESIDENT PRETORIUS** **PRESIDENT STEYN**
Displacement:	2,144 tons *standard* (2,557 tons *full load*)	
Dimensions:	360 (*pp.*), 370 (*o.a.*) × 41 × 12 feet	
Guns:	2—4·5 inch (twin); 2—40 mm. Bofors AA. (twin)	
Tubes:	12—21 inch (8 single homing, two twin)	
A/S weapons:	2 Limbo three-barrelled depth bomb mortars	
Machinery:	2 sets double reduction geared steam turbines. 2 shafts. S.H.P.: 30,430 =over 30 kts.	
Boilers:	2 Babcock & Wilcox	
Complement:	190	

General Notes

Three anti-submarine frigates of the "Whitby" class are being built in the United Kingdom during the period 1958-1964 as a part of the expansion programme announced by the Minister of Defence. The first of these, *President Kruger*, launched on 20 Oct. 1960, and *President Pretorius* are being built by Yarrow & Co. Ltd., Scotstoun, Glasgow, and *President Steyn*, launched on 23 Nov. 1961, by Alex Stephen & Sons Ltd., Govan, Glasgow.

Officially stated that having been primarily designed for the location and detection of the most modern type of submarines, these first-rate frigates will be fitted with the latest underwater detection equipment and anti-submarine weapons of post-war development. Good sea-keeping qualities will enable the vessels to maintain their high speed in rough seas. The vessels are all welded and the structural arrangements have been specially designed to achieve the lightest possible structure. Opportunity has been taken in their building to gain experience of welding procedures and arrangements calculated to conduce to rapid building of such vessels in emergency. Air conditioned for tropical climates.

Engineering Notes

The propelling machinery includes novel geared turbines of advanced design and high power which start on a cruising turbine and automatically switch over to the main turbine at a predetermined speed.

Electrical Notes

The electrical system is alternating current, 440 volts, three phase, 60 cycles per second.

Nomenclature Notes

Kruger was the last president of the old Transvaal Republic. Steyn was the last president of the old Orange Free State. Pretorius was the first president of the Transvaal Republic: he built and named the capital Pretoria after his father, one of the "Great Trek" leaders.

FRIGATES

Former British Anti-Submarine Type
2 " Loch " Class

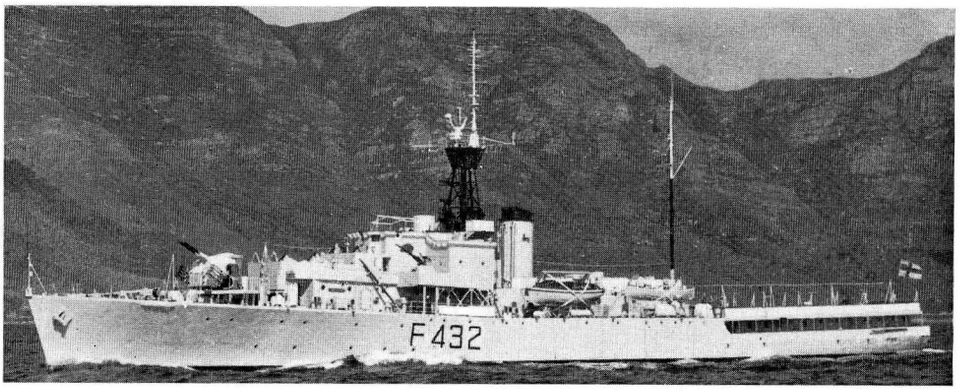
GOOD HOPE (ex-*Loch Boisdale*)
TRANSVAAL (ex-*Loch Ard*)

	Good Hope	*Transvaal*
Name:		
Pennant No.:	F 432	F 602
Builders:	Blyth Dry Docks & S.B. Co. Ltd.	Harland & Wolff, Ltd., Belfast (completed by Lobnitz & Co. Ltd., Renfrew)
Laid down:	8 Nov. 1943	20 Jan. 1944
Launched:	5 July 1944	2 Aug. 1944
Completed:	1 Dec. 1944	21 May 1945

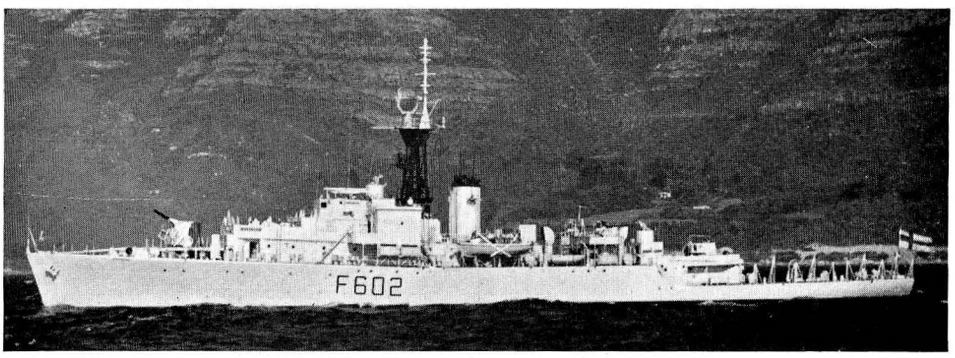
Displacement:	1,435 tons *standard* (2,260 tons *full load*)
Dimensions:	286 (*pp.*), 307 (*o.a.*) × 38½ × 15 (*max.*) feet
Guns:	*Transvaal*, 2—4 inch, 6—40 mm. Bofors AA. *Good Hope*, 2—4 inch, 2—40 mm. Bofors AA., 4—3 pdr. saluting guns
A/S weapons:	2 Squid triple barrelled depth charge mortars
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts. (*max.*) designed. Sea speed: 18 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	724 tons
Radius:	9,500 miles at 12 kts.
Complement:	140

Notes

These two " Loch " class frigates, and a sister ship, *Natal*, were presented to South Africa by Great Britain in 1944-45. *Transvaal* has been modernised. *Good Hope* was converted to a despatch vessel and for training purposes in 1955, on similar lines to H.M.S. *Surprise*; she is primarily employed as a Training Ship; she has deckhouse superstructure for extra cabins, and reception platform above, built on aft. Refitted in 1961. Sister ship *Natal* was converted into a surveying ship in 1957, see below.



GOOD HOPE (after re-fit) 1962, *South African Navy, Official*



TRANSVAAL 1961, *South African Navy, Official*

ESCORT MINESWEEPERS

Former British Ocean Type
2 " Algerine " Class

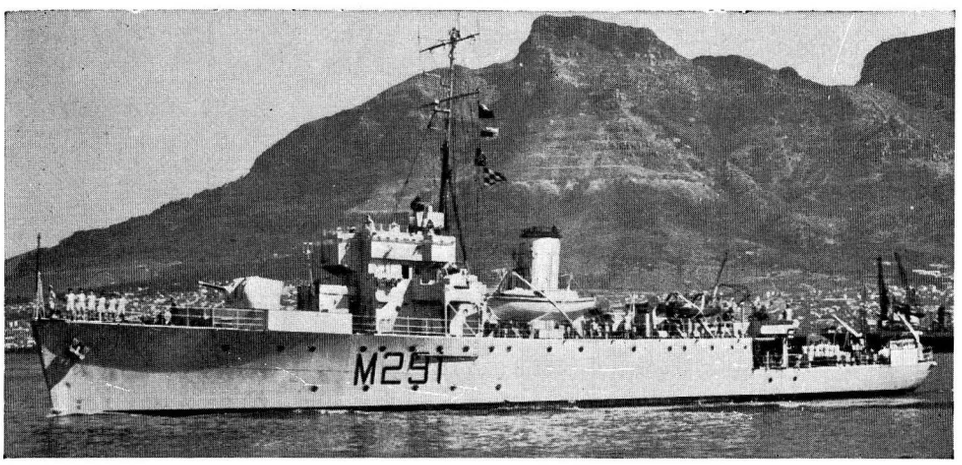
BLOEMFONTEIN (ex-*Rosamund*)
PIETERMARITZBURG (ex-*Pelorus*)

	Bloemfontein	*Pietermaritzburg*
Name:		
Pennant No.:	M 439	M 291
Builders:	Port Arthur Shipyards	Lobnitz & Co. Ltd., Renfrew
Laid down:	1943	8 Oct. 1942
Launched:	20 Dec. 1944	18 June 1943
Completed:	1945	7 Oct. 1943

Displacement:	1,040 tons *standard* (1,330 tons *full load*)
Dimensions:	225 (*o.a.*) × 35½ × 11½ (*max.*) feet
Guns:	1—4 inch, 8—20 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,160=16 kts.
Boilers:	2, of 3-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 10 kts.
Complement:	85

Notes

Purchased by South Africa from Great Britain in 1947. Of the " Algerine " class, the fastest and most efficient minesweepers in the Royal Navy, also used as escort vessels Both ships are in reserve.



PIETERMARITZBURG 1955, *R. M. Scott*

Photograph Notes

A starboard broadside view of *Bloemfontein* appears in the 1952-53 to 1957-58 editions.

SURVEYING VESSEL

1 " Loch " Class. Former Frigate

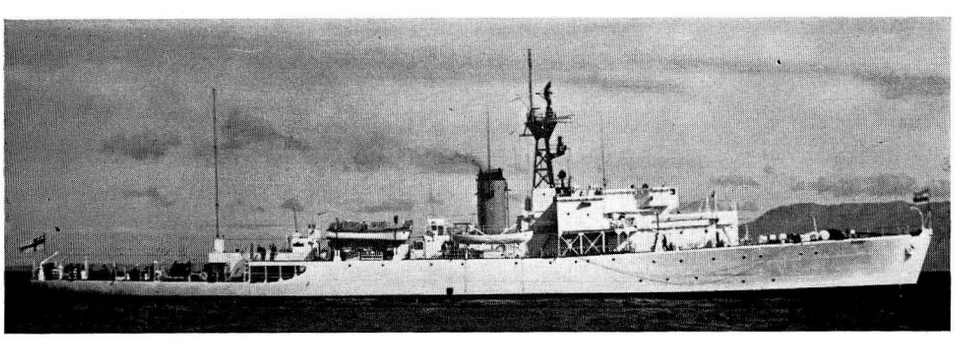
NATAL (ex-*Loch Cree*)

Pennant No.:	A 301
Builders:	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne
Laid down:	18 Oct. 1943
Launched:	19 June 1944
Completed:	8 Mar. 1945

Displacement:	1,435 tons *standard* (2,260 tons *full load*)
Dimensions:	296 (*pp.*), 307 (*o.a.*) × 38½ × 12 (*mean*) 14¾ (*max.*) feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts. (*max.*) designed. Sea speed: 18 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	724 tons
Radius:	9,500 miles at 12 kts.
Complement:	124

Notes

Originally a " Loch " class frigate presented to South Africa by Great Britain in 1945. Converted into a surveying vessel in 1957, when guns and anti-submarine weapons were removed. Sister ship of *Good Hope* and *Transvaal*, see above.



NATAL 1961, *South African Navy, Official*

Recent Disposal

The surveying vessel *Protea* (ex-" Flower " class frigate *Rockrose*) was sold to commercial interests in 1962.

COASTAL MINESWEEPERS



KIMBERLEY — *Added 1962, South African Navy, Official*



WINDHOEK (enclosed bridge, tripod mast) — 1958, *John I. Thornycroft & Co., Ltd.*



PRETORIA (open bridge and lattice mast) — 1956, *R. M. Scott*

10 "Ton" Class (Type I)

DURBAN M 1499
EAST LONDON (ex-*Chilton*) M 1215
JOHANNESBURG (ex-*Castleton*) M 1207
KAAPSTAD (ex-H.M.S. *Hazleton*) M 1142
KIMBERLEY (ex-*Stratton*) M 1210
MOSSELBAAI (ex-*Oakington*) M 1213
PORT ELIZABETH (ex-*Dumbleton*) M 1212
PRETORIA (ex-H.M.S. *Dunkerton*) M 1144
WALVISBAAI (ex-*Packington*) M 1214
WINDHOEK M 1498

Displacement:	360 tons *standard* (425 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28¾ × 8½ feet
Guns:	1—40 mm. Bofors AA., 2—20 mm. AA.
Machinery:	Diesels (Mirrlees in *Kaapstad* and *Pretoria*, Deltic in remainder). 2 shafts. 15 kts.
Complement:	27

Notes

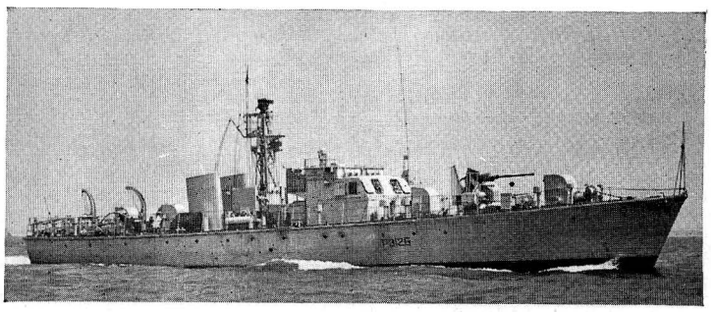
Basically similar to the "Ton" class coastal minesweepers in the Royal Navy. *Kaapstad* and *Pretoria*, which have lattice mast and open bridge, were purchased in 1955. A modified ship, *Windhoek*, with frigate bridge and tripod mast, was launched at John I. Thornycroft & Co. Ltd., Woolston, Southampton, on 27 June 1957. *Durban*, which also has a covered bridge and tripod mast, was launched at Camper & Nicholson's, Gosport, on 12 June 1957. These first four ships of the class are now in reserve. *East London* and *Port Elizabeth* were transferred from the Royal Navy to the South African Navy at Hythe, Southampton Water, on 27 Oct. 1958, and sailed for South Africa in Nov. 1958. *Johannesburg*, *Kimberley* and *Mosselbaai* were delivered in 1959. *Walvisbaai* was launched by Harland & Wolff, Belfast, on 10 Dec. 1958 and delivered in 1959.

Disposal Notes

The controlled minelayer *Skilpad* (ex-*Spindrift*, ex-*Polaris*), see particulars and photograph in the 1957-58 edition, was sold to commercial interests in 1958.

The surveying vessel *Protea*, formerly a frigate (corvette type) of the British "Flower" class, see full particulars and photograph in the 1961-62 edition, was sold to commercial interests in 1962, it is officially stated.

SEAWARD DEFENCE BOATS



HAERLEM — 1960, *courtesy Vosper Ltd., Portsmouth, Builders*

5 "Ford" Class

GELDERLAND (ex-H.M.S. *Brayford*) P 3105
HAERLEM P 3126
NAUTILUS (ex-H.M.S. *Glassford*) P 3120
OOSTERLAND P 3127
RIJGER P 3125

Displacement:	99·6 tons *light*, 120 tons *standard* (160 tons *full load*)
Dimensions:	110 (*pp.*), 117½ (*o.a.*) × 20 × 4½ feet
Guns:	1—40 mm. AA.
A/S weapons:	2 D.C.T. in *Haerlem* *Oosterland* and *Rijger*. Depth charge release gear. Flares
Machinery:	2 Davy Paxman diesels. Foden engine on centre shaft. Max. speed = 18 kts. (designed). Sea speed: 15 kts.
Complement:	24

Notes

Similar to "Ford" class, 3101 series, in the Royal Navy. *Gelderland* was purchased from Great Britain in 1954, being handed over to the South African Navy at Portsmouth on 30 Aug. 1954. They are an entirely new design of naval vessel, their purpose being to detect, locate and destroy submarines, including midget submarines, in the approaches of defended ports. They have modern electronic equipment for armament, and a comprehensive electrical installation. *Gelderland* was built by A. & J. Inglis Ltd., Glasgow. Second ship, *Nautilus*, was purchased in 1955. These first two ships of the class are now in reserve. *Rijger* was launched at Vosper Ltd., Portsmouth, on 6 Feb. 1958. *Haerlem* was launched at Vosper Ltd., Portsmouth, on 18 June 1958. *Oosterland* was launched at Vosper Ltd., Portsmouth, on 27 Jan. 1959. All three of these later ships are fitted with roll damping fins developed and manufactured by Vosper.

SEAWARD DEFENCE MOTOR LAUNCHES

5 Ex-HDML Type

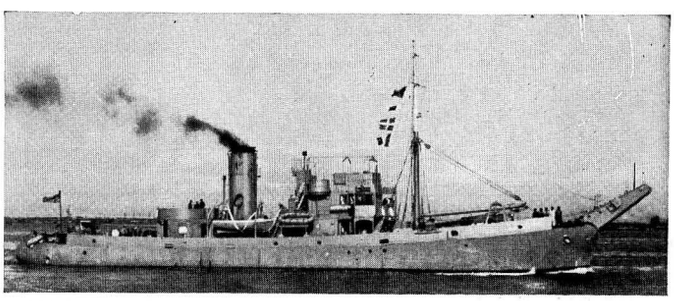
SDML 1197 **SDML 1200** **SDML 1202** **SDML 1203** **SDML 1204**

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅔ × 5½ feet
Machinery:	2 Gardner 8-cylinder diesels. B.H.P.: 130 = 11 kts.
Complement:	11 to 14

Notes

Former HMDLs (Harbour Defence Motor Launches). All built in South Africa. Their guns have now been removed. Used as tenders to South African Naval Bases. *SDML* 1330 and *SDML* 1331 were stricken off in 1953, *SDML* 1199 and *SDML* 1201 were stricken in 1955. *SDML* 1198 was scrapped in 1956. *SDML* 1332 was scrapped on 11 Feb. 1958.

BOOM DEFENCE VESSELS



SOMERSET — 1956, *R. M. Scott*

2 "Bar" Class

FLEUR (ex-*Barbrake*) P 273
SOMERSET (ex-*Barcross*) P 285

Displacement:	750 tons *standard* (919 to 960 tons *full load*)
Dimensions:	150 (*pp.*), 182 (*o.a.*) × 32½ × 9½ (*mean*), 11½ (*max.*) feet
Machinery:	Triple expansion. 160 r.p.m. I.H.P.: 850 = 11·75 kts. (designed). Sea speed: 9 kts.
Boilers:	2 S. E. (pressure 200 lb. per sq. in.)
Fuel:	214 tons coal (*Fleur*); 186 tons oil (*Somerset*)
Complement:	32

Notes

Engined by Wm. Simons and Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne, respectively. Transferred from Great Britain. Of the same type as the "Bar" class boom defence vessels in the Royal Navy. Renamed in 1951, *Fleur* after General de la Rey's horse, and *Somerset*, the traditionally accepted name for Dick King's horse. *Fleur* is in reserve. Guns are removed in peace-time.

Name	*Builders*	*Laid down*	*Launched*	*Completed*
Fleur	Wm. Simons & Co. Ltd., Renfrew	18 July 1941	29 June 1942	15 July 1942
Somerset	Blyth Dry Docks & S.B. Co. Ltd.	15 Apr. 1941	21 Oct. 1941	14 Apr. 1942

SPAIN

Administration

Minister of Marine:
Admiral Excmo. Sr. Don Felipe Abarzuza y Oliva

Chief of Naval Staff:
Admiral Excmo. Sr. Don Santiago Antón Rozas

Acting 2nd Chief of Naval Staff:
Rear-Admiral Excmo. Sr. Don Antonio Blanco Garcia

Commander-in-Chief of the Fleet:
Vice-Admiral Excmo. Sr. Don Faustino Ruiz Gonzalez

Naval Attaché in London:
Captain Sr. Don Enrique Barbudo Duarte

Personnel

1962: Total 42,713 (3,813 officers, 29,203 ratings, 4,533 civil branch, 5,164 marines)

Navy Estimates

1958:	2,539,719,085.66 pesetas.
1959:	2,580,829,918.28 pesetas.
1960:	2,655,883,903.00 pesetas.
1961:	2,658,479,733.00 pesetas.
1962:	3,314,590,252.00 pesetas.

New Programme

The following vessels have been modernised:—
2 destroyers of the " Alava " class
9 destroyers of the " Audaz " class
2 frigates of the " Pizarro " class
2 minelayers of the " Jupiter " class
2 submarines of the " D " class
5 corvettes of the " Descubierta " class
7 minesweepers of the " Tambre " class

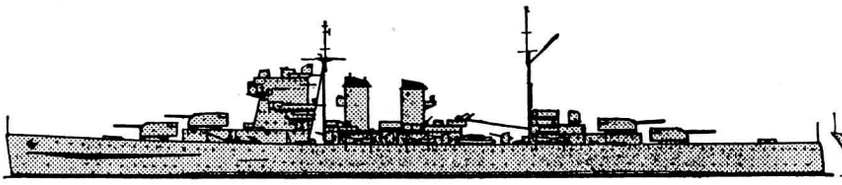
A programme of new construction is being planned, it is officially stated.

Mercantile Marine

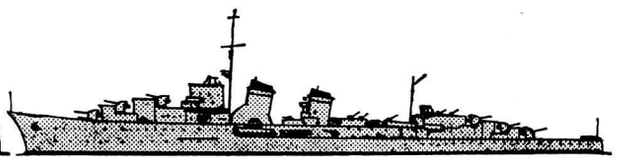
Lloyd's Register of Shipping:
1,510 vessels of 1,958,065 tons *gross*.

Silhouettes

Scale: 150 ft. = 1 inch.



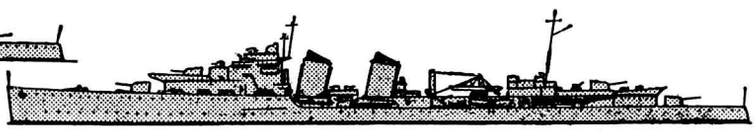
CANARIAS



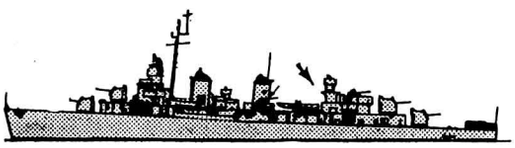
MENDEZ NUÑEZ



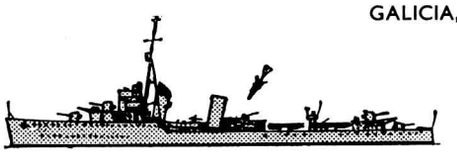
ALMIRANTE CERVERA



GALICIA, MIGUEL DE CERVANTES



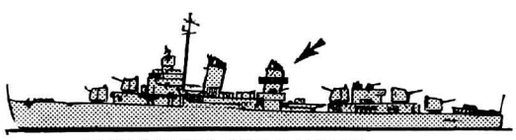
ALMIRANTE VALDES



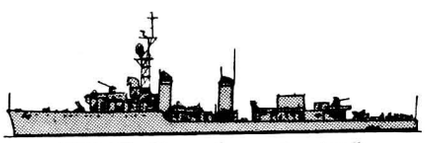
ALMIRANTE ANTEQUERA *Group*



EOLO, TRITON



ALMIRANTE FERRANDIZ



AUDAZ *Class* (as modernised)



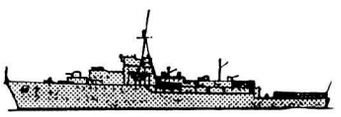
MARTE, NEPTUNO



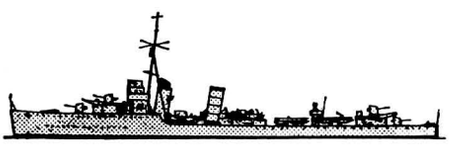
LEPANTO



PIZARRO *Class*



DESCUBIERTA



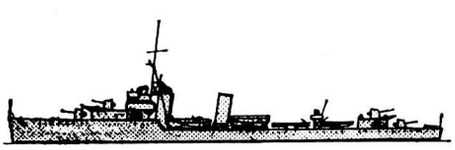
ALAVA, LINIERS



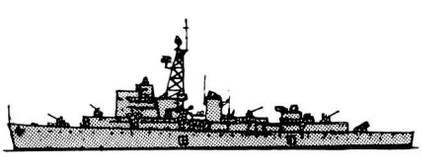
LEGAZPI, VICENTE YAÑEZ PINZON



ATREVIDA *Class* (modernised)



CHURRUCA *Group*

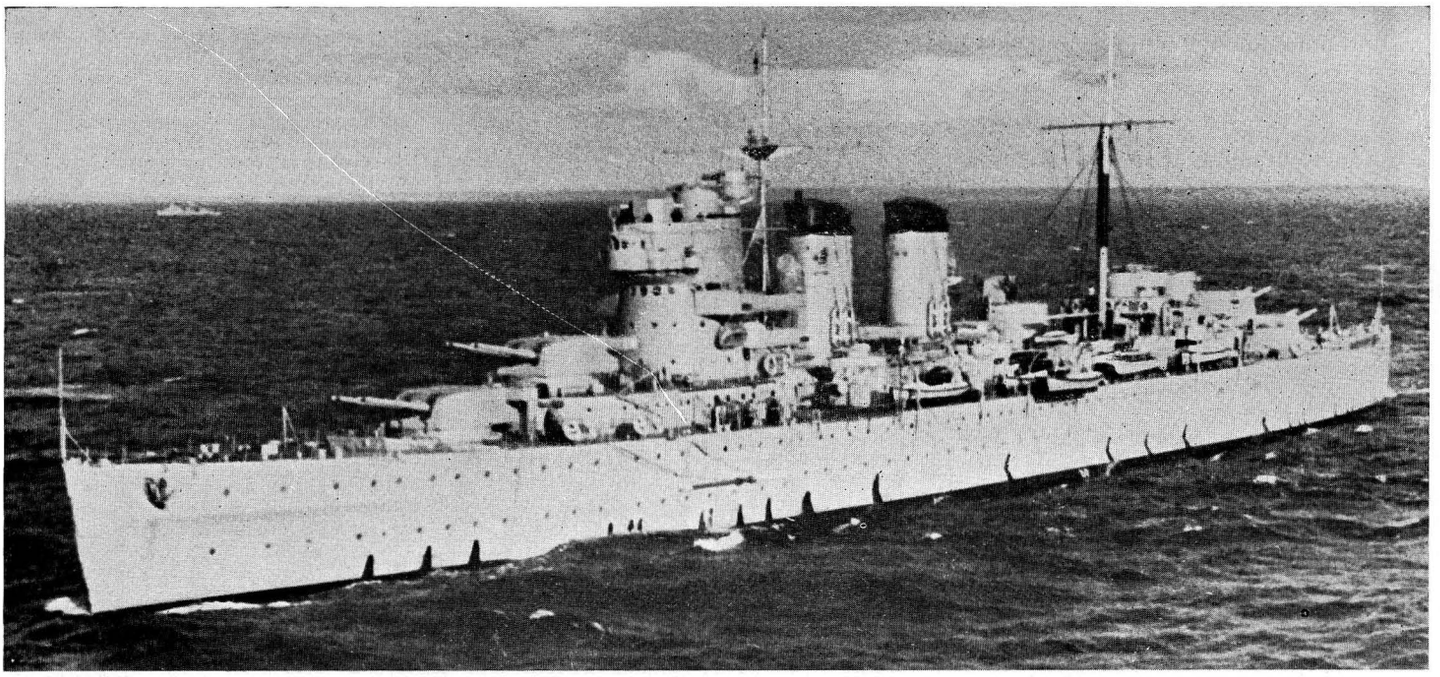


JUPITER, VULCANO



BIDASOA *Class*

HEAVY CRUISER



CANARIAS

Added 1957, courtesy Señor A. Aguilera

(Rated as *Crucero Type 2*)

CANARIAS

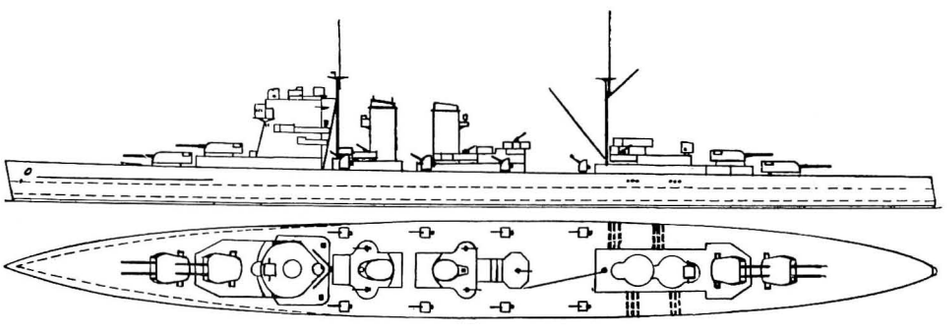
Pennant No.	C 21
Builders:	Sociedad Española de Construccion Naval, Ferrol
Laid down:	15 Aug. 1928
Launched:	28 May 1931
Completed:	Sep. 1936
Displacement:	10,670 tons *standard* (12,230 tons *full load*)
Dimensions:	Length: 636 feet. Beam: 64 feet. Draught: 17½ feet (*mean*)
Guns:	8—8 inch, 50 cal., 8—4·7 inch AA., 45 cal., 12—37 mm. AA., 3—20 mm. AA.
Tubes:	Removed (see *Torpedo Notes*)
Armour:	1½″—2″ side, 1″ turrets, 4″ magazines
Machinery:	Parsons geared turbines. 2 shafts. Designed S.H.P.: 90,000=33 kts.
Boilers:	8 Yarrow
Oil fuel:	2,794 tons
Radius:	8,000 miles at 15 kts.
Complement:	948 (officially revised figure)

General Notes

This ship was designed by the late Sir Philip Watts on the basic pattern of the contemporary British heavy cruisers of the later " County " classes. She was named after the Canary Islands. From completion until 1952 this ship had trunked funnels, but on completion of her refit early in 1953 she emerged with two separate funnels, this being a reversion to the original design which had never been carried out.

Torpedo Notes

She is no longer equipped with the 12—21 inch torpedo tubes in triple mountings which she formerly carried, it was officially stated in 1960.



Gunnery Notes

The maximum elevation of the 8-inch guns is 70 degrees.

Class Notes

Sister ship *Baleares* was torpedoed and sunk on 6 Mar. 1938 during the Spanish Civil War.

Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

CRUISERS

3 " Galicia " Class

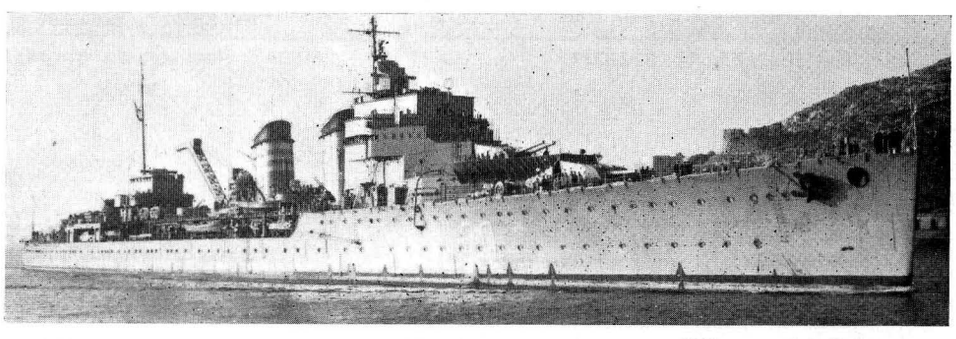
GALICIA (ex-*Libertad*, ex-*Princ pe Alfonso*) C 11

MIGUEL DE CERVANTES C 13

Displacement:	8,250 tons *standard* (9,900 tons *full load*)
Dimensions:	Length: 575 (*pp.*), 579½ (*o.a.*) feet. Beam: 54 feet. Draught: 16½ (*mean* 20½ (*deep load*) feet
Guns:	8—6 inch, 50 cal., 8—37 mm. AA., 20—20 mm. AA.
Tubes:	Removed (see *Torpedo Notes*)
Armour:	3″ side (amidships), 2″ side (forward), 1½″ side (aft), 1″ deck
Machinery:	Parsons geared turbines. 4 shafts. Designed S.H.P.: 80,000=31·6 kts.
Boilers:	8 Yarrow (large tube)
Oil fuel:	1,650 tons, 1,700 tons *max.*
Radius:	5,000 miles at 15 kts., 1,200 miles at *full power*
Complement:	564 (peace), 725 (war)

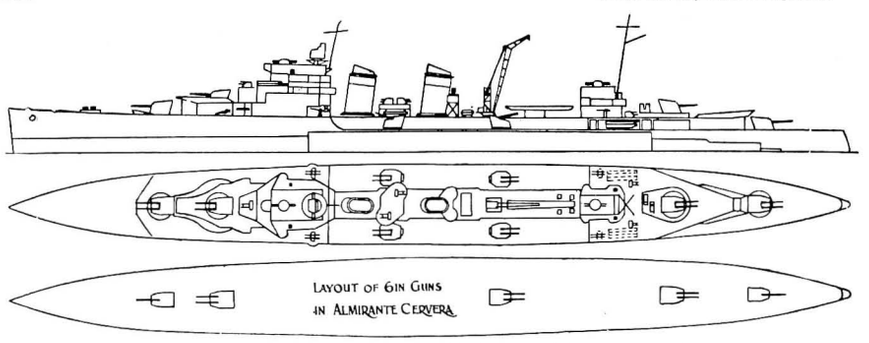
ALMIRANTE CERVERA C 12

Displacement:	7,976 tons *standard* (9,662 tons *ull load*).
Dimensions:	Length: 575 (*pp.*), 579½ (*o.a.*) feet Beam: 54 feet. Draught: 16½ (*mean*), 20½ (*max.*) feet
Guns:	8—6 inch, 50 cal. (3 twin, 2 single);. 16—37 mm. AA.; 4—20 mm. AA.
Tubes:	Removed (see *Torpedo Notes*)
Armour:	3″ side (amidships), 2″ side (forward), 1½″ side (aft), 1″ deck
Machinery:	Parsons geared turbines. 4 shafts. S.H.P.: 80,000=34 kts.
Boilers:	8 Yarrow.
Oil fuel:	1,686 tons (1,709 tons *max.*)
Radius:	5,000 miles at 15 kts.
Complement:	603 (peace), 720 (war).



GALICIA

1962, courtesy Senor A. Aguilera

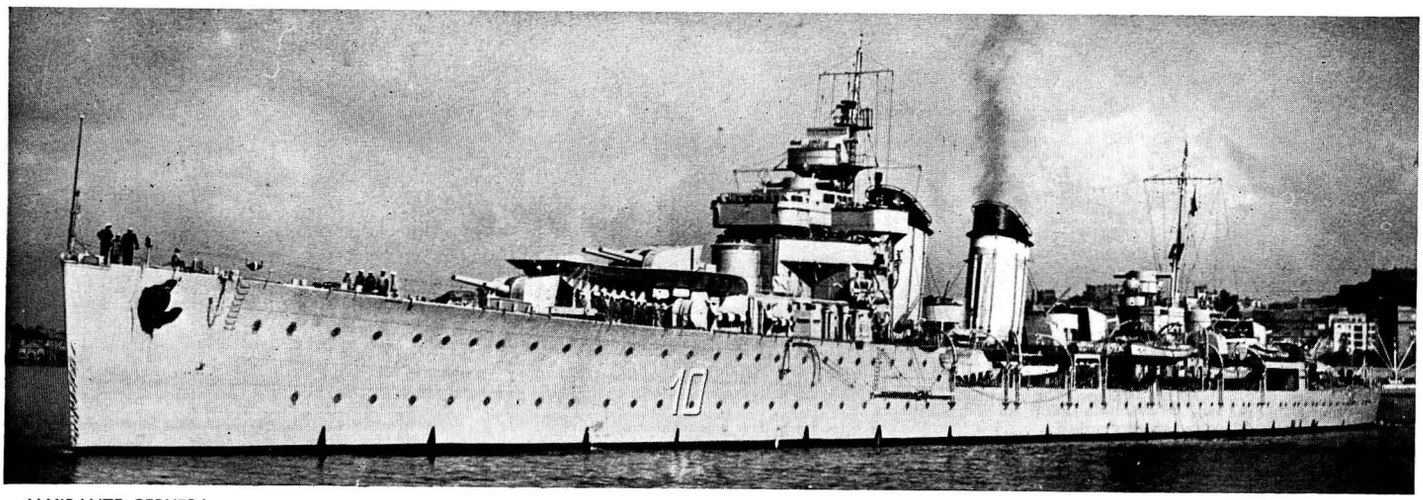


Notes to Drawing

Port elevation (composite representation of all three ships). Crane only in *Galicia*.

Plan of *Galicia* and *Miguel Cervantes* (upper plan
Plan of *Almirante Cervera* (lower plan)
Scale: 128 feet=1 inch.

Cruisers—*continued*



ALMIRANTE CERVERA

1959, *courtesy Señor A. Aguilera*

'Galicia'' Class—*continued*

General Notes

All three ships were constructed by the Sociedad Espanola de Construccion Naval at Ferrol Dockyard under the Navy Law of 17 Feb. 1915. Their cost was estimated at about 8,122 pesetas per ton. Designed under direction of the late Sir Philip Watts, K.C.B., for the Spanish Government. All reconstructed and modernised during 1940-46. Their armament was modified in 1957. Allocated C pennant numbers, instead of the old numbers, in 1961.

Gunnery Notes

Almirante Cervera has single 6 inch guns in "A" and "Y" positions, and twin 6 inch guns in "B", "Q" and "X" positions. The four 4·1 inch AA. guns have been removed, and eight 37 mm. AA. guns mounted in their place. "*Galicia*" and *Miguel de Cervantes* have twin 6-inch guns in "A", "B", "X" and "Y" positions. The eight 3·5 inch guns have been removed.

Torpedo Notes

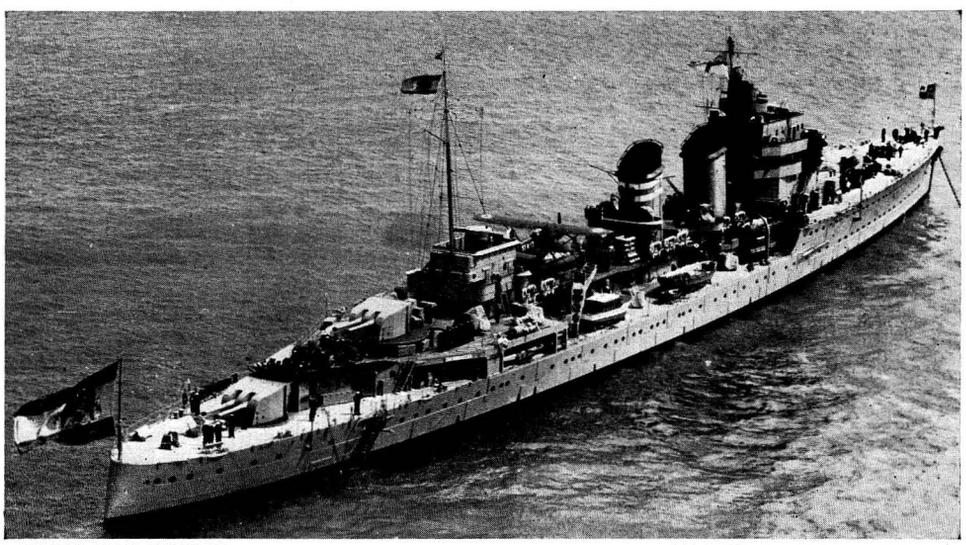
These ships are no longer equipped with torpedo tubes, which were in revolving triple mounts on the upper deck, 12—21 inch in *Almirante Cervera* and 6—21 inch in *Galicia* and *Miguel de Cervantes*, it was officially stated in 1960.

Engineering Notes

On trials *Galicia* developed 83,000 S.H.P. and attained a speed of 34·7 kts.

Pennant No.	*Name*	*Builders*	*Engineers*
C 12	*Almirante Cervera*	Ferrol D.Y.	S.E.C.N.
C 11	*Galicia*		
C 13	*Miguel de Cervantes*		

Name	*Laid down*	*Launched*	*Completed*
Almirante Cervera	25 Nov. 22	16 Oct. 25	May 27
Galicia	24 Nov. 22	23 Jan. 25	Sep. 27
Miguel de Cervantes	27 Aug. 26	19 May 29	Feb. 30



MIGUEL DE CERVANTES

Added 1955, *Spanish Navy, Official*

Appearance Notes

Galicia now mounts a radar scanner just abaft the main director on the bridge on a small lattice tower. The ships now have recognition numbers painted on the hull forward, see photos of *Almirante Cervera* and *Galicia*.

Nomenclature Notes

Respective names are those of the Commander-in-Chief of the Spanish fleet in the West Indies during the war with the U.S.A. in 1898, Admiral Pascual Cervera y Topete; the north-western region of Spain: and the author of *Don Quijote*.

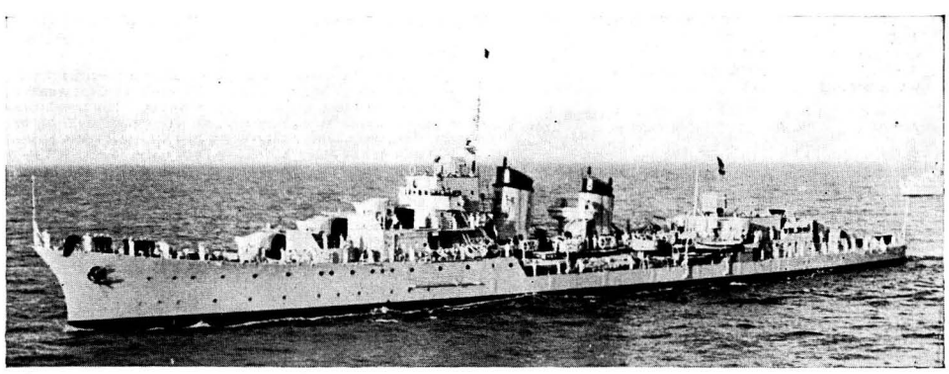
ANTI-AIRCRAFT CRUISER

MENDEZ NUÑEZ

Pennant No.:	C 01
Builders:	Ferrol Dockyard
Engineers:	Sociedad Española de Construccion Naval
Laid down:	1 Feb. 1917
Launched:	27 July 1922
Completed:	30 Aug. 1925
Displacement:	4,680 tons *standard* (6,312 tons *full load*)
Dimensions:	Length: 440 (*pp.*), 462 (*o.a.*) feet. Beam: 46 feet. Draught: 14½ (*mean*), 19 (*max.*) feet
Guns:	7—4·7 inch AA., 10—37 mm. AA., 8—20 mm. AA
Tubes:	6—21 inch (tripled)
Armour:	1"-¾" side (amidships), 1"-½" side (ends), 1" deck
Machinery:	Parsons geared turbines. 4 shafts Designed H.P.: 45,000=29 kts.
Boilers:	12 Yarrow (6 oil-burning, 6 mixed-firing)
Fuel:	806 tons coal; 727 tons oil
Radius:	5,000 miles at 13 kts.
Complement:	370

Historical Notes

Named after Don Casto Mendez Nuñez, Commander-in-Chief of the Spanish Fleet in the Pacific in 1866. He bombarded Valparaiso on 31 Mar. of that year, and bombarded the batteries at Callao on 2 May.



MENDEZ NUÑEZ

Spanish Navy, Official

General Notes

Rebuilt and rearmed during 1944-47, her funnels being reduced in number from 3 to 2 and her appearance entirely altered. Allocated a C pennant number in 1961.

This ship is very old and no longer seagoing, being confined to port at Palma as a floating base and cannibalised by other cruisers. This applies also to *Miguel de Cervantes* at Cartagena.

Engineering Notes

On trials this ship attained a speed of 29·28 kts. with 43,776 S.H.P.

Disposal Notes

The light cruiser *Navarra* was removed from the effective list in 1956.

DESTROYERS (*Destructores*)

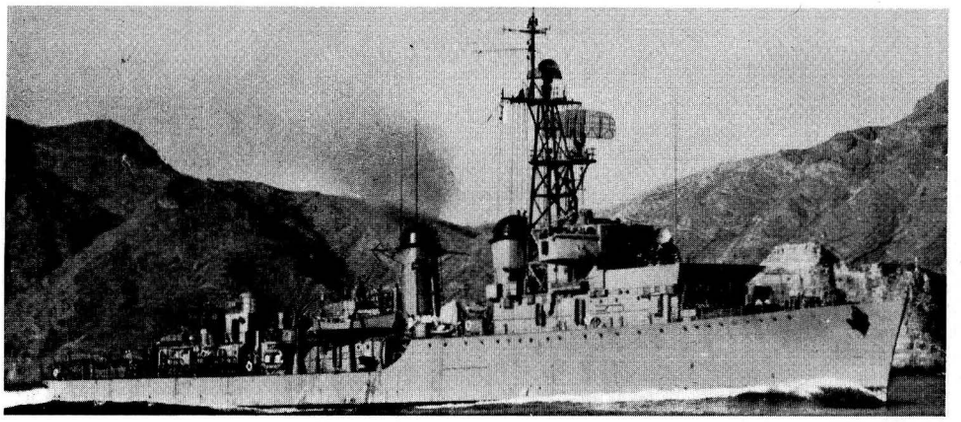
2 "Alava" Class

	ALAVA	LINIERS
Name:	*Alava*	*Liniers*
Pennant Nos.	ex-23	ex-21
Builders:	Cartagena	Cartagena
Laid down:	21 Dec. 1944	1 Jan. 1945
Launched:	19 June 1947	1 May 1946
Completed:	21 Dec. 1950	27 Jan 1951
Modernised:	18 Sep. 1961	18 Jan. 1962

Displacement:	1,650 tons *standard* (2,170 tons *full load*)
Dimensions:	333 × 31¾ × 15 (*mean*) feet
Guns:	6—3 inch AA. (three twin, Mk. 34); 3—40 mm. 70 cal. AA.
Tubes:	Removed (see *Torpedo Notes*)
A/S weapons:	2 Hedgehogs, 8 D.C. Mortars, 2 D.C. racks, 2 side launching torpedo racks, 6 A/S torpedoes
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 44,000=36 kts. (28 to 30 kts. sea speed)
Boilers:	4 Yarrow, of 3-drum type
Oil fuel:	480 tons
Radius:	4,200 miles at 15 kts
Complement:	200

Gunnery Notes

Before modernisation these ships mounted 4—4·7 inch, 6—37 mm. AA. and 3—20 mm. AA. guns.



ALAVA (on trials after modernisation) 1962, *courtesy Senor A. Aguilera*

General Notes

These two destroyers, a development of the *Churruca* design were originally ordered in 1936, but construction was held up by the Civil War. After being resumed, it was again suspended in 1940, but restarted at Cartagena in 1944.

Torpedo Notes

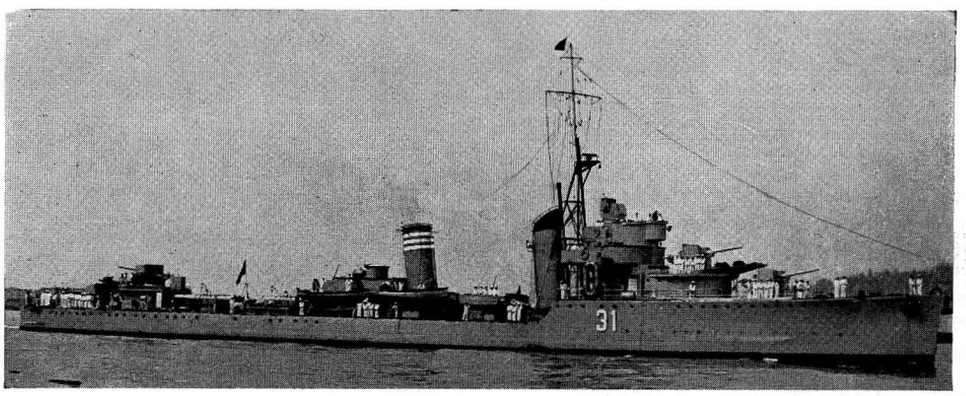
This class have no torpedo tubes since they were modernised, it was officially stated in 1960. They formerly carried 6—21 inch (tripled), but now have torpedo racks for six homing torpedoes instead of tubes.

5 "Almirante Antequera" Class

("Churruca" Group 2)

	ALMIRANTE ANTEQUERA ALMIRANTE MIRANDA ESCAÑO	GRAVINA ULLOA
Displacement:	1,676 tons *standard* (2,175 tons *full load*)	
Dimensions:	320 (*pp.*), 333 (*o.a.*) × 31¾ × 17 (*max.*) feet	
Guns:	4—4·7 inch, 1—3 inch and 4—37 mm., 2—20 mm. AA.	
A/S weapons:	4 D.C.T.	
Tubes:	6—21 inch (tripled)	
Machinery:	2 sets Parsons geared turbines, 2 shafts. S.H.P.: 42,000=36 kts.	
Boilers:	4, of 3-drum type	
Oil fuel:	540 tons	
Radius:	4,500 miles at 14 kts.	
Complement:	195	

Pennant No.	*Name*	*Launched*	*Completed*
D 14	*Almirante Antequera*	29 Dec. 1930	1934
D 15	*Almirante Miranda*	20 June 1931	1934
D 17	*Escaño*	28 June 1932	1935
D 16	*Gravina*	24 Dec. 1931	1934
D 18	*Ulloa*	24 July 1932	1936



ALMIRANTE MIRANDA 956, *courtesy Señor A. Aguilera*

General Notes

All built at Cartagena by Sociedad Espanola de Construccion Naval. This class is a later version of the "*Sanchez Barcoiztegui*" design. Now have D pennant numbers painted on bows which replaced the former numbers in 1961, table at foot of column one.

Recent Disposals

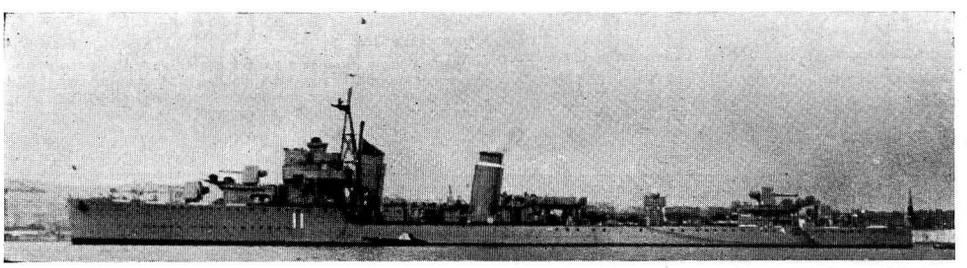
The *Ciscar* which was sunk in the Spanish Civil War in Oct. 1937 but was salved and refitted in 1938-39, ran aground in heavy fog and broke her back off El Ferrol on 17 Oct. 1957. She was removed from the Navy List in 1958. The *Jorge Juan* was removed from the Navy List in 1959.

3 "Sanchez Barcaiztegui" Class

("Churruca" Group 1)

	CHURRUCA	JOSÉ LUIS DIEZ SANCHEZ BARCAIZTEGUI
Displacement:	1,650 tons *standard* (2,087 tons *full load*)	
Dimensions:	320 (*pp.*), 333 (*o.a.*) × 31¾ × 17 (*max.*) feet	
Guns:	4—4·7 inch, 2—20 mm. AA.	
A/S weapons:	4 D.C.T.	
Tubes:	6—21 inch (tripled)	
Machinery:	2 sets Parsons geared turbines. 2 shafts. S.H.P.: 42,000=36 kts.	
Boilers:	4, of 3-drum type	
Oil fuel:	500 tons	
Radius:	4,500 miles at 14 kts.	
Complement:	175	

Pennant No.	*Name*	*Launched*	*Completed*
D 13	*Churruca*	June 1929	1931
D 12	*José Luis Diez*	25 Aug. 1926	1929
D 11	*Sanchez Barcaiztegui*	24 July 1926	1928



JOSÉ LUIS DIEZ 1955, *Spanish Navy, Official*

General Notes

Based on the design of the contemporary British flotilla leaders of the "Scott" class. All built at Cartagena by Sociedad Española de Construccion Naval. The two earliest ships of this class, originally named *Alcalá Galiano* and *Churruca*, were sold to Argentina in 1927, new units bearing the same names being built to replace them. Another ship of this class, *Almirante Juan Ferrandiz* was sunk in the Spanish Civil War in Sep. 1936. *Churruca* was torpedoed by submarine, but repaired. Now have D pennant numbers painted on bows, which replaced the former numbers in 1961, table in column one.

Modernisation Notes

Plans have been completed for modernising four "Churruca" group destroyers with new anti-aircraft guns, new anti-submarine warfare weapons and new electronic apparatus under the Mutual Defense Assistance Program.

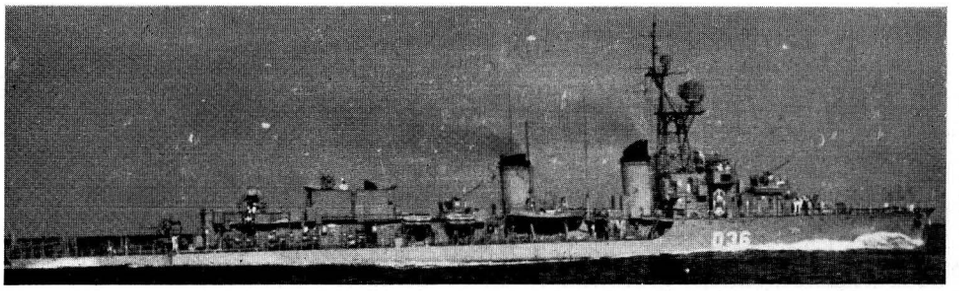
Recent Disposals

Of the "Churruca" Group I the old destroyer *Lepanto* was removed from the effective list in Aug. 1957 when the new *Lepanto* (ex-U.S.S. *Capps*) joined the Spanish fleet (see previous page).

The *Alcalá Galiano* of the "Churruca" Group and *Almirante Valdes* were also removed from the effective list at the end of 1957.

Recent Disposals of older Destroyers

Of the "Alsedo" class, the *Alsedo* and *Velasco* were removed from the effective list in 1957, and the *Lazaga* was removed from the effective list in January, 1961.



ARIETE (after modernisation) see next page 1962, *Spanish Navy, Official*

ANTI-SUBMARINE DESTROYERS *(Destructores Caza Submarinas)*

5 "Lepanto" Class
Ex-U.S. "Fletcher" Class

ALCALÁ GALIANO (ex-U.S.S. *Jarvis*, DD 799)
ALMIRANTE FERRANDIZ (*ex-U.S.S. David W. Taylor*, DD 551)
ALMIRANTE VALDÉS (ex-U.S.S. *Converse*, DD 509)
JORGE JUAN (ex-U.S.S. *McGowan*, DD 678)
LEPANTO (*ex-U.S.S. Capps*, DD 550)

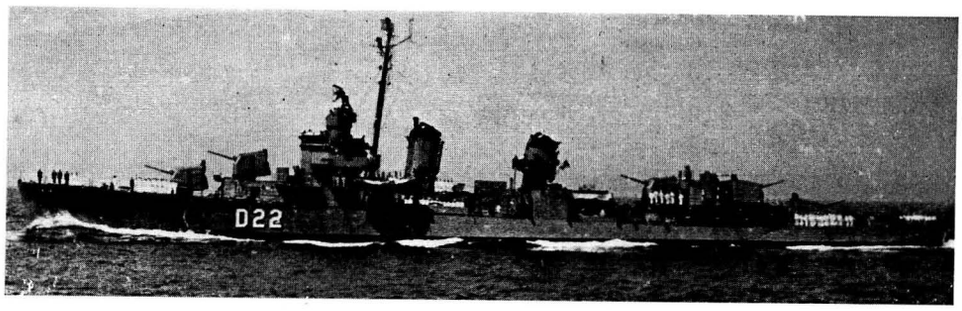
Displacement:	2,080 tons *standard* (3,050 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39½ × 12¼ (*mean*), 18 (*max.*) feet
Guns:	*Almirante Ferrandiz, Lepanto*, 5—5 inch, 38 cal.; 6—40 mm. Bofors AA.; 12—20 mm. Oerlikon AA. (6—20 mm. in *A.F.*) *Alcalá Galiano, Almirante Valdes, Jorge Juan*, 4—5 inch, 38 cal. (single mountings); 6—3 inch, 50 cal. (three twin mountings), as re-armed
Tubes:	5—21 inch (quintupled)
A/S weapons:	2 Hedgehogs, 6 D.C.T., 2 D.C. racks, 2 side launching torpedo racks
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	350 (war)

General Notes

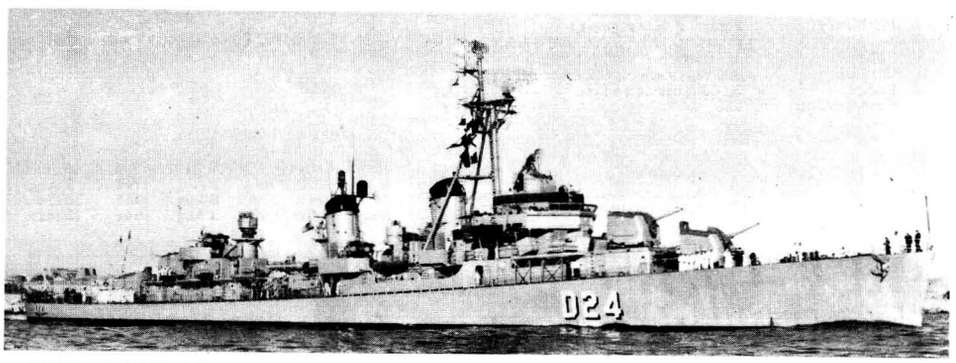
Former United States fleet destroyers. *Capps* and *David W. Taylor* were the first units of the "Fletcher" class to be transferred to a foreign government. Loaned to Spain under the Mutual Defense Assistance Program for a period of five years. Reconditioned at San Francisco and turned over to the Spanish Navy at San Francisco, California, on 15 May 1957. Sailed for Spain on 1 July 1957. *Converse* was transferred to the Spanish Navy at Philadelphia on 1 July 1959. *McGowan* was transferred at Barcelona on 1 Dec. 1960 and *Jarvis* was transferred at Philadelphia on 3 Nov. 1960. Both of these are of the Later "Fletcher" class and were transferred on a five year renewable loan basis, under the Military Aid Programme. All five ships were allocated D pennant numbers in 1961.

Photograph Notes

A port bow oblique aerial view of *Almirante Ferrandiz* appears in the 1958-59 and 1959-60 editions, and a starboard bow view of *Almirante Valdes* (as re-armed) appears in the 1960-61 edition.



ALMIRANTE FERRANDIZ (five 5 inch, pole mast) *1962, Spanish Navy, Official*



ALCALA GALIANO (four 5 inch, tripod mast) *1962, courtesy Senor A. Aguilera*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 24	*Alcalá Galiano*	Todd Pacific Shipyards		14 Feb. 1944	3 June 1944
D 22	*Almirante Ferrandiz*	Gulf S.B. Corpn., Chickasaw, Ala.	12 June 1941	4 July 1942	18 Sep. 1943
D 23	*Almirante Valdés*	Bath Iron Works Corp., Maine	23 Feb. 1942	30 Aug. 1942	8 June 1943
D 25	*Jorge Juan*	Federal S.B. & D.D. Co.		14 Nov. 1943	20 Dec. 1943
D 21	*Lepanto*	Gulf S.B. Corpn., Chickasaw, Ala.	12 June 1941	31 May 1942	23 June 1943

9 "Audaz" Class

ARIETE **INTRÉPIDO** **RAYO**
AUDAZ **METEORO** (*ex-Atrevido*) **RELÁMPAGO**
FUROR **OSADO** **TEMERARIO**

Displacement:	1,106 tons *standard* (1,484 tons *full load*)
Dimensions:	305 × 30¾ × 10 (*mean*) feet
Guns:	4—3 inch AA. (two twin, Mk. 34); 2—40 mm., 70 cal. AA.
A/S weapons:	2 Hedgehogs, 8 mortars, 2 D.C. racks, 2 side launching torpedo racks, 6 A/S torpedoes
Machinery:	Rateau-Bretagne geared turbines. 2 shafts. S.H.P.: 30,800=33 kts.
Boilers:	3, of 3-drum type
Oil fuel:	290 tons
Radius:	3,800 miles at 14 kts.
Complement:	145 to 171

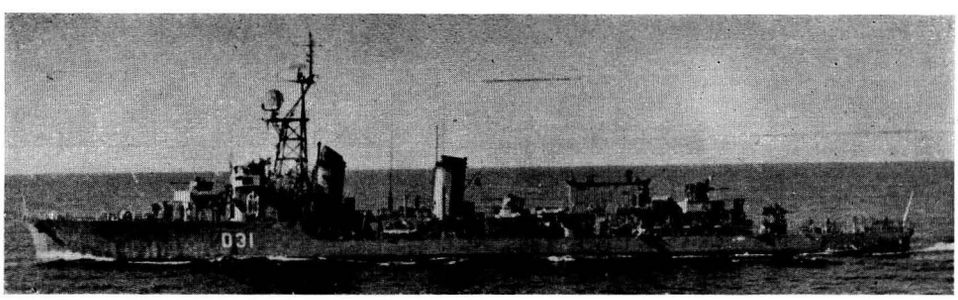
General Notes

All built at Ferrol. Meanings of names: *Ariete*, battering ram; *Audaz*, audacious; *Furor*, fury; *Intrépido*, fealess; *Osado*, daring; *Rayo*, thunderbolt; *Relámpago*, lightning flash; *Temerario*, venturesome. Allocated D pennant numbers in 1961.

Dates of delivery after modernisation:—*Ariete* 7 Feb. 1961, *Audaz* 28 June 1961, *Furor* 9 Sep. 1960, *Intrepido* June 1962, *Meteoro* Apr. 1962, *Osado* Aug. 1961, *Rayo* Apr. 1962, *Relámpago* Aug. 1962, *Temerario* May 1962. All of this class are equipped with U.S. electronic and ASW equipment under MAP.

Gunnery Notes

Before modernisation these ships mounted 3—4·1 inch guns, 4—37 mm. AA. guns and 8—20 mm. AA. guns.



AUDAZ (as modernised) *1962, courtesy Mr. W. H. Davis*

Engineering Notes

The boilers are in two compartments separated by the engine rooms. Steam is superheated to 375 degrees Fahrenheit. Working pressure is 500 lb. per sq. in. Engines have developed 32,500 S.H.P.

Classification Notes

This class of ships were originally projected as conventional destroyers but their classification was changed to fast frigates in 1955, they were again re-rated, as anti-submarine frigates, in 1956, and as anti-submarine destroyers in 1961.

Pen. No.	*Name*	*Laid down*	*Launched*	*Completed*
D 36	*Ariete*	3 Aug. 1945	24 Feb. 1955	1960
D 31	*Audaz*	26 Sep. 1945	24 Jan. 1951	30 June 1953
D 34	*Furor*	3 Aug. 1945	24 Feb. 1955	7 Sep. 1960
	Intrépido	14 July 1945		Mar. 1962
D 33	*Meteoro*	3 Aug. 1945	4 Sep. 1951	30 Nov. 1955
D 32	*Osado*	3 Aug. 1945	4 Sep. 1951	25 Jan. 1955
D 35	*Rayo*	3 Aug. 1945	4 Sep. 1951	1956
	Relámpago	14 July 1945		May 1962
	Temerario	14 July 1945		Jan. 1962

3 "Oquendo" Class

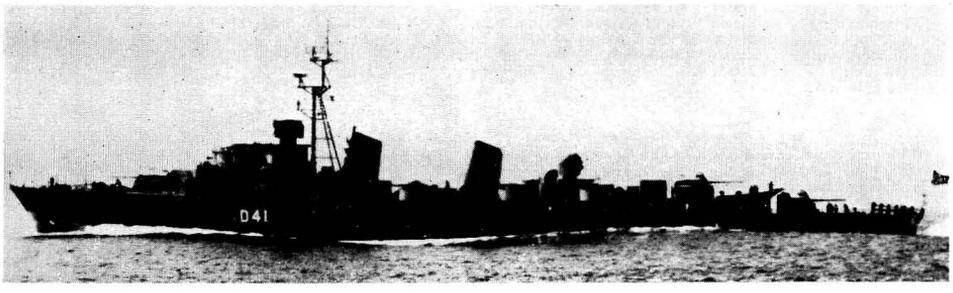
MARQUÉS DE LA ENSENADA **OQUENDO** **ROGER DE LAURIA**

Displacement:	2,050 tons *standard* (2,765 tons *full load*)
Dimensions:	382 × 36 × 12 (*mean*) feet
Guns:	6—4·7 inch AA. (twin mounts), 6—40 mm. AA., 4—20 mm. AA.
A/S weapons:	Hedgehogs, Projectors, Tracks
Machinery:	Geared turbines of Rateau-Bretagne type. 2 shafts. S.H.P.: 60,000=39 kts.
Boilers:	3, of 3-drum type
Oil fuel:	659 tons
Radius of action:	5,000 miles at 20 kts
Complement:	267

General Notes

All ordered at Ferrol in 1947-48. *Oquendo* was completed at Bazan Shipyard on 13 Sep. 1960. All three vessels are being modernised and fitted with British equipment. (*Blas de Lezo, Blasco de Garay, Bonifaz, Gelmirez, Langara* and *Recalde* of this class were cancelled in 1953.)

Pennant No.	*Name*	*Laid down*	*Launched*
	Marqués de la Ensenada	4 Sep. 1951	
D 41	*Oquendo*	15 June 1951	5 Sep. 1956
	Roger de Lauria	4 Sep. 1951	12 Nov 1958



OQUENDO *1962, Spanish Navy, Official*

Construction Notes

These vessels were originally designed as conventional destroyers, but during their construction their design was modified. The seven 21-inch torpedo tubes and two depth-charge throwers were suppressed, and they will be equipped with anti-submarine rocket projectors.

Trials are reported to have proved unsatisfactory, with a metacentre resulting in a lack of stability.

Classification Notes

This class of ships were re-classified as anti-submarine frigates in 1955, again re-rated as fast frigates in 1956, and as anti-submarine destroyers in 1961.

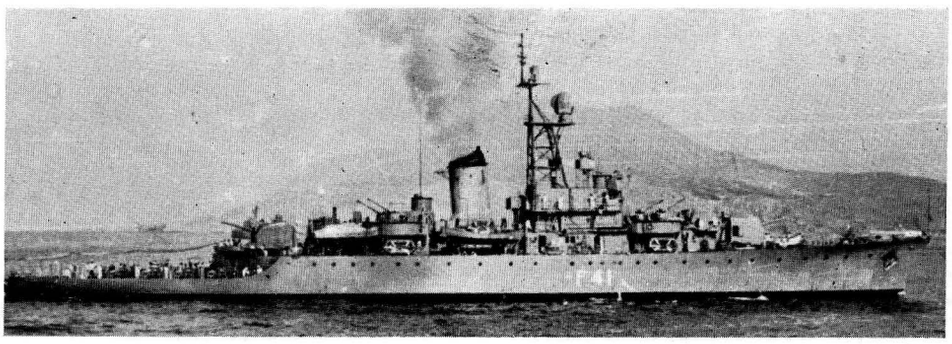
FRIGATES (rated as *Fragatas*)

8 "Pizarro" Class

HERNAN CORTES **MARTIN ALOÑSO PINZON**
LEGAZPI **SARMIENTO DE GAMBOA**
MAGALLANES **VASCO NUÑEZ DE BALBOA**
PIZARRO **VICENTE YAÑEZ PINZON**

Displacement:	1,710 tons *standard* (2,246 tons *full load*)
Dimensions:	279 (*pp.*), 312½ (*o.a.*) × 39½ × 11 feet
Guns:	*Legazpi* and *Vicente Yañez Pinzon* as modernised: 2—5 inch, 38 cal.; 4—40 mm., 70 cal. AA. Remainder: 6—4·7 inch AA. (twin mounts), 8—37 mm. AA., 6—20 mm. AA.
A/S weapons	*Legazpi* and *Vicente Yañez Pinzon* as modernised: 2 Hedgehogs, 8 mortars, 2 D.C. racks, 2 side launching torpedo racks Remainder: 4 D.C.T.
Mines:	30 (capacity) can be carried
Machinery:	2 sets Parsons geared turbines. shafts. S.H.P.: 5,000 = 18·5 kts.
Boilers:	2 Yarrow
Oil fuel:	386 tons *normal*, 402 tons *max.*
Radius:	3,000 miles at 14 kts.
Complement:	250

General Notes
All built at Ferrol. Designed to carry 30 mines. Rated as *Canoneras* (Gunboats) until 1958 when they were officially re-rated as *Fragatas*. Allocated F pennant numbers in 1961. *Legazpi* and *Vicente Yañez Pinzon* completed modernisation on 14 Jan. and 25 Mar. 1960, respectively.



VICENTE YAÑEZ PINZON (as modernised) — 1962, *courtesy Mr. W. H. Davis*

Pen. No.	Name	Launched	Completed	Pen. No.	Name	Launched	Completed
F 32	*Hernan Cortes*	3 Aug. 1944	18 Sep. 1947	F 31	*Pizarro*	3 Aug. 1944	9 Aug. 1946
F 42	*Legazpi*	8 Aug. 1944	8 Aug. 1951	F 36	*Sarmiento de Gamboa*	8 Aug. 1944	2 May 1950
F 35	*Magallanes*	8 Aug. 1944	20 Dec. 1948	F 33	*Vasco Nuñez de Balboa*	3 Aug. 1944	15 Mar. 1947
F 34	*Martin Aloñso Pinzon*	3 Aug. 1944	18 Mar. 1948	F 41	*Vicente Yañez Pinzon*	3 Aug. 1944	5 Aug. 1949

FRIGATE MINELAYERS (*Minadores*)

2 "Eolo" Class

EOLO **TRITÓN**

Displacement:	1,500 tons *standard* (1,900 tons *full load*)
Dimensions:	278 × 38½ × 10 feet
Guns:	4—4·1 inch, 4—37 mm. AA., 4 M.G.
A/S weapons:	2 D.C.T.
Mines:	Stowage for 170 (*Tritón*, 180 to 200)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 5,000 = 19·5 kts.
Boilers:	2 Yarrow
Oil fuel:	300 tons

Notes
Both built by the Sociedad Esparola de Construccion Naval, Ferrol. the design resembles that of the Mexican "Queretaro" type. Dual purpose frigates or gunboats and minelayers. Allocated F pennant numbers in 1961. A port quarter view of *Eolo*, showing minelaying stern, appears in the 1961-62 edition.

Pen. No.	Name	Launched	Completed
F 21	*Eolo*	30 Aug. 1939	July 1942
F 22	*Tritón*	24 Feb. 1940	Oct. 1943



TRITON — 1962, *A. and J. Pavia*

4 "Jupiter" Class

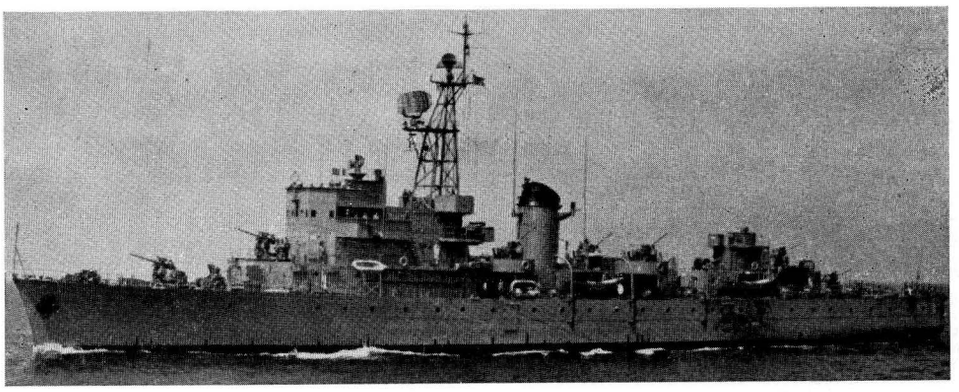
JUPITER **NEPTUNO**
MARTE **VULCANO**

Displacement:	2,100 tons *standard* (2,600 tons *full load*)
Dimensions:	302¾ (*pp.*), 315 (*o.a.*) × 41½ × 11½ feet
Guns:	*Jupiter* and *Vulcano* as modernised: 4—3 inch AA. (single, Mk. 26); 4—40 mm., 70 cal. AA. *Marte*: 4—4·7 inch, 2—3 inch AA., 3—37 mm. AA., 2—20 mm. AA. (see *Notes*)
A/S weapons:	*Jupiter* and *Vulcano* have been modernised with 2 Hedgehogs, 8 Mortars, 2 D.C. racks.
Mines:	Stowage for 264 *max.*, normally less
Machinery:	2 sets Parsons geared turbines. 2 shafts. S.H.P.: 5,000 = 18·5 kts.
Boilers:	Yarrow
Oil fuel:	280 tons
Complement:	123

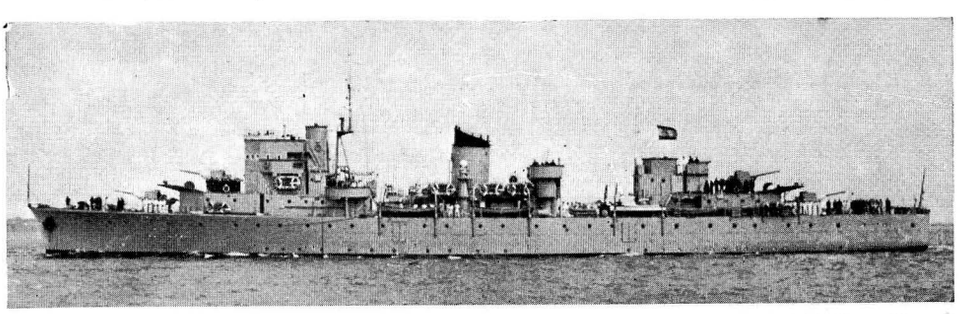
Notes
All built by the Sociedad Española de Construccion Naval, Ferrol. Multi-purpose frigates or gunboats and cruising type minelayers. *Neptuno* is midshipmen's training ship and carries 4—4·7 inch guns, 4—3·7 mm. AA. and 3—20 mm. AA. The modernisation of *Jupiter* was completed on 28 Oct. 1960, and of *Vulcano* on 28 Feb. 1961. All allocated F pennant numbers in 1961.

Photograph Notes
A port bow view of *Jupiter*, as modernised, appears in the 1961-62 edition.

Pennant Nos.	Name	Launched	Completed
F 11	*Jupiter*	14 Sep. 1935	1937
F 01	*Marte*	19 June 1936	1937
F 02	*Neptuno*	19 Dec. 1937	1938
F 12	*Vulcano*	18 Oct. 1935	1937



VULCANO (as modernised) — 1962, *Spanish Navy, Official*



NEPTUNO — 1956, *courtesy P. Gildea-Evans, Esq.*

Recent Disposals
The frigate *Canovas del Castillo* was officially stricken from the list in 1959.

The larger frigate *Calvo Sotelo* (ex-*Zacatecas*). of the "Durango" type was removed from the effective list at the end of 1957.

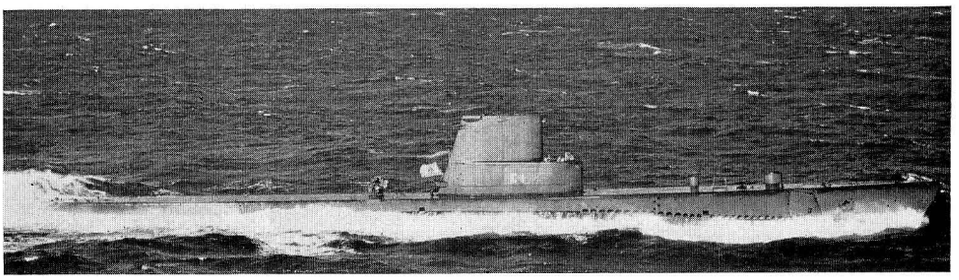
SUBMARINES (*Submarinos*)

1 Ex-U.S. "Balao" Class

ALMIRANTE GARCIA DE LOS REYES E 1
(ex-U.S.S. *Kraken*, *SS* 370)

Pennant No.:	S 31
Builders:	Manitowoc S.B. Co.
Laid down:	30 Apr. 1944
Completed:	8 Sep. 1944 (commissioned)
Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,040 tons *submerged*)
Dimensions:	312×27×17 feet
Tubes:	10—21 inch
Machinery:	4 diesels. B.H.P.: 6,400=20 kts. (*surface*). Electric motors. H.P.: 4,600=10 kts. (*submerged*)

Notes
Transferred to the Spanish Navy from the United States Navy under the Mutual Defense Assistance Program in Oct. 1959 after completing modernisation and overhaul at Pearl Harbour, Hawaii in 1959. Another U. S. submarine of the "Balao" class was to have been transferred.



ALMIRANTE GARCIA DE LOS REYES — 1961, *Spanish Navy, Official*

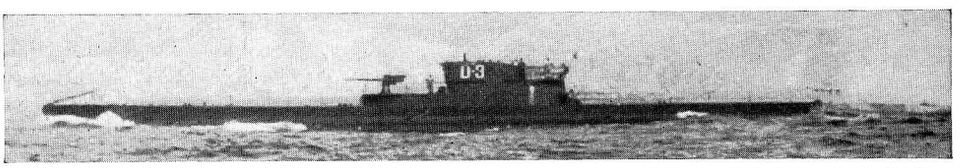
3 "D" Class

D 1 **D 2** **D 3**

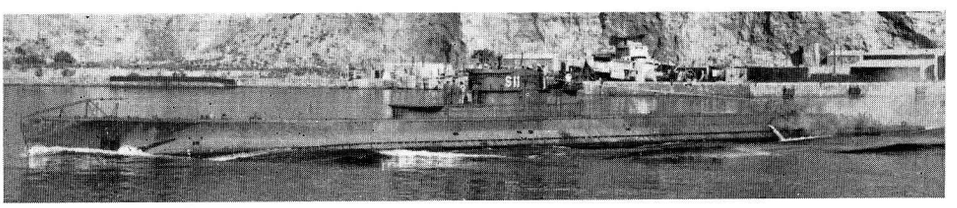
Displacement:	1,065 tons (*surface*), 1,480 tons (*submerged*)
Dimensions:	275½×21¾×13½ feet (*mean*)
Guns:	*D* 3: 1—4·7 inch, 2 M.G. *D* 1, *D* 2: none as modernised
Tubes:	6—21 inch (4 bow, 2 stern)
Machinery:	2 Sulzer diesels, B.H.P.: 5,000=20·5 kts. (*surface*). Electric motors, H.P.: 1,300=9·5 kts. (*submerged*)
Radius:	9,000 miles (*surface*)
Complement:	60

Notes
Admiralty type. Ordered under the 1926 Programme. All built at the Sociedad Española de Construccion Naval, Cartagena. Construction was held up by the Civil War Diving limit, 50 fathoms. *D* 3 on trials early 1953. *D* 2 (S 21) and *D* 3 (S 22) were delivered after modernisation in May 1962. Allocated S pennant numbers in 1961.

No.	*Name*	*Laid down*	*Launched*	*Completed*
S 11	*D* 1	Sep. 1933	11 May 1944	18 Mar. 1947
S 21	*D* 2	Sep. 1934	21 Dec. 1944	2 Apr. 1951
S 22	*D* 3	1945	20 Feb. 1952	1954



D 3 — 1954, *Spanish Navy, Official*

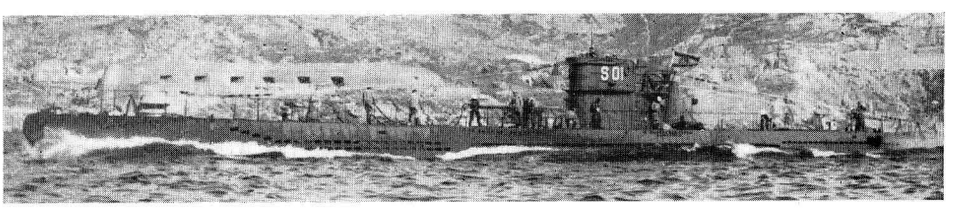


D 1 (new pennant No. S 11) — 1962, *courtesy Senor A. Aguilera*

1 Ex-German Type

G 7 (*ex-U* 573)

Pennant No.:	S 01
Builders:	Blohm & Voss, Hamburg
Displacement:	757 tons (*surface*), 857 tons *submerged*)
Dimensions:	228½×20½×14¾ feet
Guns:	1—3·5 inch
Tubes:	5—21 inch (4 bow, 1 stern)
Machinery:	Diesels, B.H.P.: 3,000=17·9 kts. (*surface*). Electric motors, H.P.: 750=8·5 kts. (*submerged*)
Radius:	9,000 miles (*surface*)
Complement:	45



G 7 (new pennant No. S 01) — 1962, *courtesy Senor A. Aguilera*

Notes
Former German U-boat of the VII C Type. Interned in Spain in 1942 and purchased from Germany in the following year. Allocated S pennant number in 1961.

Cancellation Notes
It is officially stated that the construction of four new submarines G 1, G 2, G 3, G 4 (G 5 and G 6 were also projected originally) ordered in 1945 at Cartagena, which were to have been generally similar to the ex-German G 7, has been abandoned. U.S. submarines will probably be acquired under the Mutual Defense Assistance Program in their place.

Recent Disposals
It is officially stated that the two former Italian submarines *General Mola* (ex-*Evangelista Torricelli*) and *General Sanjurjo* (ex-*Archimede*) were removed from the Navy List in 1959.

2 "Tiburon" Class

TIBURON I **TIBURON II**

The "Tiburon" class will have a complement of 5 officers and men.

Notes
Two midget submarines of the "Foca" class were launched in 1957-58. All four boats are rated as *Submarinos Experimentales*.

2 "Foca" Class

FOCA I **FOCA II**

Displacement:	16 tons
Dimensions:	39½×6½×5½ feet
Machinery:	Speed: 9·2 kts. *surface*, 12 kts. *submerged*
Radius:	700 miles
Complement:	2

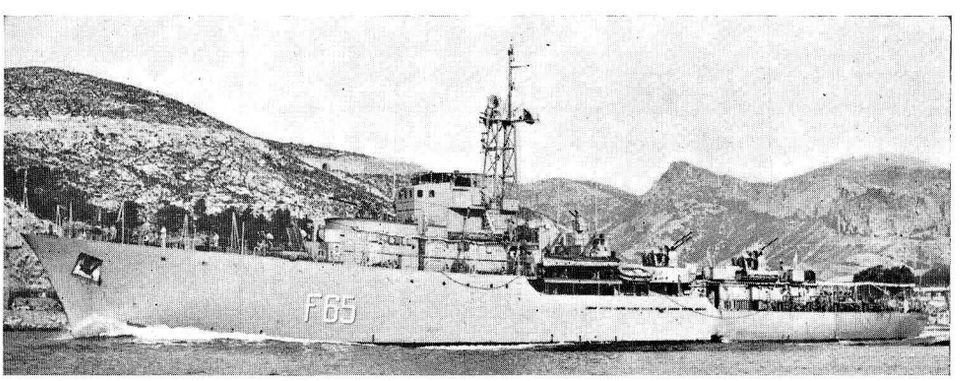
CORVETTES (*Corbetas*)

6 "Atrevida" Class

ATREVIDA **DIANA** **PRINCESA**
DESCUBIERTA **NAUTILUS** **VILLA DE BILBAO**

Displacement:	912 tons *standard* (1,022 tons *full load*)
Dimensions:	247¾ (*o.a.*)×33½×9½ feet
Guns:	*Descubierta*: 1—4·1 inch AA., 2—37 mm. (twin mount), 12—20 mm. quadruple mounts) Remainder, as modernised: 1—3 inch, Mk. 26; 3—40 mm., 70 cal. AA.
A/S weapons:	*Descubierta*: 4 D.C.T. Remainder, as modernised: 2 Hedgehogs, 8 mortars, 2 D.C. racks
Mines:	20 (capacity) can be carried
Machinery:	2 Diesels. 2 shafts. B.H.P.: 3,000=18·5 kts.
Oil fuel:	100 tons
Radius:	7,000 miles
Complement:	113

Pen. No.	*Name*	*Laid down*	*Launched*	*Completed*
F 61	*Atrevida*	26 June 1950	9 June 1952	19 Aug. 1954
F 51	*Descubierta*	26 June 1950	2 Dec. 1952	Feb. 1955
F 63	*Diana*	27 July 1953	29 Apr. 1955	1956
F 64	*Nautilus*	27 July 1953	23 Aug. 1956	1958
F 62	*Princesa*	18 Mar. 1953	31 Mar. 1955	1957
F 65	*Villa de Bilbao*	18 Mar. 1953	1956	1958



VILLA DE BILBAO (as modernised) — 1961, *courtesy Señor A. Aguilera*

Notes
Atrevida, *Descubierta*, *Diana* and *Princesa* were built at Cartagena. *Nautilus* and *Villa de Bilbao* were built at Cadiz. *Atrevida* commissioned on 19 Aug. 1954. *Descubierta* commissioned in 1955. With the exception of *Descubierta* all have been modernised since 1959. *Princesa* was delivered on 2 Oct. 1959, *Nautilus* on 10 Dec. 1959. *Diana* on 13 May 1960, *Atrevida* on 14 June 1960 and *Villa de Bilbao* on 2 Sep. 1960. Allocated F pennant numbers in 1961.

FLEET MINESWEEPERS (*Dragaminas*)



EUME — 1962, *A. and J. Pavia*

7 "Almanzora" Class

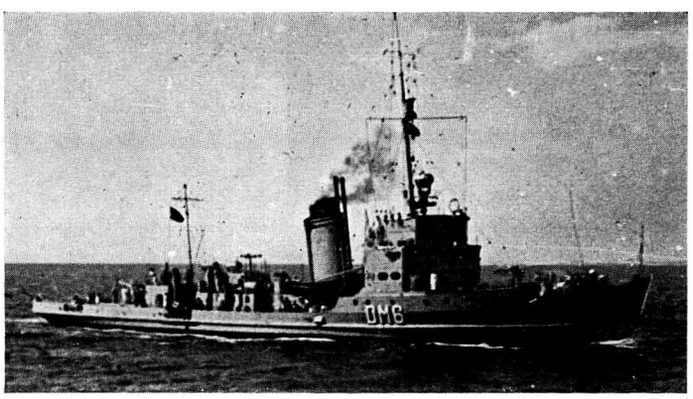
ALMANZORA **GUADALHORCE** **NAVIA**
EO **GUADIARO** **TINTO**
EUME

Displacement:	615 tons *standard* (770 tons *full load*)
Dimensions:	203 × 28 × 8 feet
Guns:	As modernised: 2—20 mm. AA.
Machinery:	Triple expansion and exhaust turbines. 2 shafts. H.P.: 2,400 = 16 kts.
Boilers:	2 three-drum water-tube
Fuel:	192 tons coal
Radius:	3,000 miles at 10 kts.
Complement:	80

General Notes
Guardiaro and *Tinto* were commissioned in 1953. *Eume* was commissioned in Dec. 1953. Former Pennant Nos. were *DM* 11, 13, 10, 14, 8, 12, 9, respectively. Allocated new M Pennant Nos. in 1961.

Gunnery Notes
Until modernisation the armament also included 1—3·5 inch gun and 1—37 mm. AA. gun.

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*	*Modernised*
M 14	*Almanzora*	Cartagena	27 July 1953	1954	20 May 1960
M 17	*Eo*	Cadiz	Sep. 1953	Mar. 1955	23 Mar. 1961
M 13	*Eume*	Cartagena	27 July 1953	Dec. 1953	29 July 1960
M 16	*Guadalhorce*	Cartagena	18 Feb. 1953	1953	18 Feb. 1960
M 11	*Guardiaro*	Cartagena	26 June 1950	Apr. 1953	14 Oct. 1959
M 15	*Navia*	Cadiz	Sep. 1953	Mar. 1955	22 Nov. 1960
M 12	*Tinto*	Cartagena	26 June 1950	May 1953	28 July 1959



SEGURA — *Added* 1958, *Spanish Navy, Official*

6 "Bidasoa" Class

BIDASOA **NERVION** **TAMBRE**
LEREZ **SEGURA** **TER**

Displacement:	615 tons *standard* (709 tons *full load*)
Dimensions:	189 (*pp.*), 210 (*o.a.*) × 28 × 7¼ feet
Guns:	1—4·1 inch, 1—37 mm. AA., 2—20 mm. AA.
Machinery:	Triple expansion with exhaust turbines. 2 shafts. H.P.: 2,400 = 16·5 kts.
Boilers:	2
Fuel:	190 tons coal
Radius:	3,000 at 10 kts.
Complement:	65

General Notes
German M-Boote 40 type. Named after rivers. Formerly carried pennant numbers *DM* 1, 5, 3, 2, 6, 4, 7, respectively. Allocated new M pennant numbers in 1961.

Class Notes
Guadalete, of this class, which was employed as a coastguard vessel, sank in a gale 20 miles east of Gibraltar on 25 Mar. 1954.

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
M 01	*Bidasoa*	Cartagena	15 Sep. 1943	1946
M 03	*Lerez*	Cartagena	21 Dec. 1944	1947
M 02	*Nervion*	Cartagena	15 Apr. 1944	1946
M 05	*Segura*	Cartagena	15 Apr. 1945	1949
M 04	*Tambre*	Ferrol	18 Oct. 1944	1946
M 06	*Ter*	Cartagena	15 Apr. 1945	1948

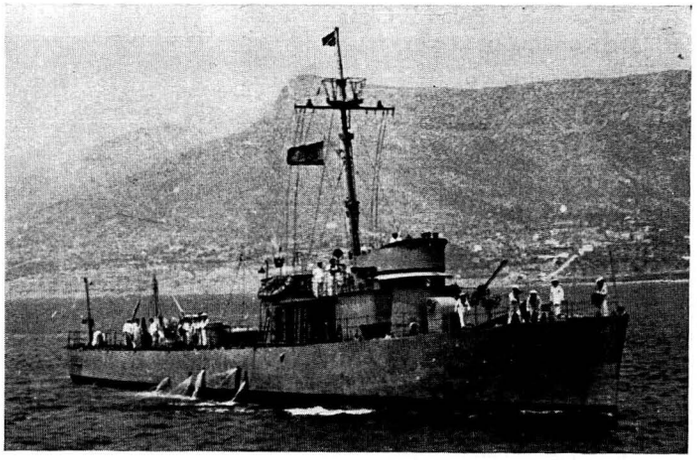
RIVER PATROL BOAT

CABO FRADERA

Displacement:	44 tons
Dimensions:	74⅔ × 14½ × 4¼ feet
Guns:	1—42 mm.
Machinery:	H.P.: 120 = 10 kts
Complement:	11

Notes
Rated as a *guarda-pesca*. Engaged in the patrol of the River Mino (Minho) on the Portuguese frontier. Photograph in the 1957-58 edition.

PATROL VESSELS (*Patrulleros*)



JAVIER QUIROGA — 1958, *Spanish Navy, Official*

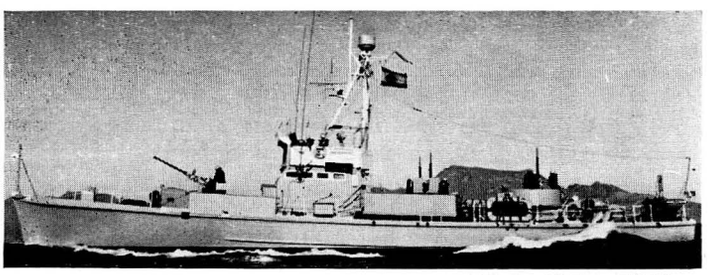
1 Ex-U.S. PC Type

JAVIER QUIROGA (*ex-PC*)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173⅔ (*o.a.*) × 23 × 10¾ (*max.*) feet
Guns:	1—3 inch d.p., 1—40 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 2,880 = 20 kts

Notes
Former United States submarine chaser of the "173 ft." steel type. Purchased by Spain and transferred to the Spanish Navy on 24 Oct. 1956.

New Construction
It is proposed to build twelve patrol type vessels under the new naval construction programme.



CANDIDO PEREZ — 1961, *Spanish Navy, Official*

1 Ex-U.S. SC Type

CANDIDO PEREZ (*ex-SC 679*)

Displacement:	138 tons *standard* (148 tons *full load*)
Dimensions:	107½ (*w.l.*), 111 (*o.a.*) × 19 × 7 (*max.*) feet
Guns:	1—40 mm. AA., 3—20 mm. M.G.
A/S weapons:	2 D.C.T.
Machinery:	G.M. diesels. 2 shafts. B.H.P.: 1,000 = 15·6 kts.
Radius:	2,300 miles

Notes
Former United States submarine chaser of the "110 ft." wooden type. Built by Walter E. Abrams Shipyard, Inc. Laid down on 4 Mar. 1942. Launched on 29 Aug. 1942. Completed on 19 Dec. 1942. Transferred to Spain in 1957.

COASTAL MINESWEEPERS



ULLA — 1962, *A. and J. Pavia*

12 Ex-U.S. AMS Type

DUERO (ex-*Spoonbill*, *MSC 202*) **LLOBREGAT** (ex-*AMS 143*) **SIL** (ex-*Redwing*, *MSC 200*)
EBRO (ex-*MSC 269*) **MIÑO** (ex-*AMS 266*) **TAJO** (ex-*MSC 287*)
GENIL (ex-*MSC 279*) **NALÓN** (ex-*AMS 139*) **TURIA** (ex-*AMS 130*)
JUCAR (ex-*AMS 220*) **ODIEL** (ex-*MSC 288*) **ULLA** (ex-*AMS 265*)

Displacement:	375 tons *standard* (405 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 26½ × 8 feet
Guns:	1—20 mm. AA.
Machinery:	G.M. diesels. 2 shafts. B.H.P.: 1,200 = 14 kts.
Oil fuel:	30 tons
Radius:	2,500 miles at 10 kts.
Complement:	34

Notes
Three anti-magnetic minesweepers were transferred from the U.S.A. to the Spanish Navy, at San Diego, California, on 16 Feb. 1954 (*Nalón*), two 5 Nov. 1954 (*Llobregat*) and 1 June, 1955 at New York (*Turia*) under MDAP. Three more were transferred:—*Jucar* (launched at Bellingham, Wash. on 24 June, 1955), at Seattle, Washington, on 22 June, 1956; *Ulla* at Boston, Mass. on 24 July, 1956; and *Miño* at Boston on 25 Oct. 1956, all under the terms of the Mutual Defense Assistance Program. *Redwing* and *Spoonbill* of the United States "Bluebird" class were transferred to Spain at Norfolk on 16 June, 1959. *Ebro* was transferred on 19 Dec. 1958 at Seattle, Washington, where *Genil* was transferred on 11 Sep. 1959. Tajo was transferred at Charleston S.C. under MDAP, on 9 July, 1959 and Odiel was transferred at Charleston on 9 Oct. 1959. Pennant Nos. 28 *Duero*, M 26 *Ebro*, M 31 *Genil*, M 23 *Jucar*, M 22 *Llobregat*, M 25 *Miño*, M 21 *Nalón*, M 32 *Odiel*, M 29, *Sil*, M 30 *Tajo*, M 27 *Turia*, M 24 *Ulla*.

MOTOR TORPEDO BOATS (*Lanchas Torpederas*)



LT 32 1960, *Spanisn Navy, Official*

6 Carraca Type

LT 27 **LT 28** **LT 29** **LT 30** **LT 31** **LT 32**

Displacement:	120 tons *standard* (140 tons *full load*)
Dimensions:	114×16¾×5 feet
Guns:	2—20 mm. AA., 4 M.G.
Tubes:	2—21 inch
Machinery:	3 diesels. 3 shafts. B H.P.: 7,500=41 kts.
Oil fuel:	20 tons
Radius:	700 miles at 30 kts.
Complement:	22

Notes

Built at La Carraca, Cadiz, to the design of Lurssens of Bremen. LT 27, LT 28, LT 29 were handed over to the Spanish Navy on 10 July 1953. LT 31 was commissioned on 21 July 1956 L 32 was launched in 1956. Four more were delivered in 1958-59. L 33 and L 34 have steel hulls. Later boats will be propelled by gas turbines.

New Construction

It is reported that a new boat *LT 37* will be propelled by gas turbines

Recent Disposals

Of the six ex-German motor torpedo boats of the S 100 class, LT 24 and LT 25 were removed from the effective list in 1955, LT 21, LT 22 and LT 23 in 1956, and LT 26 in 1958.

LANDING SHIPS (*Barcazas de Desembarco*)

3 Ex-U.S. LSM Type

LSM 1 (ex-U.S.S. *LSM* 329) **LSM 2** (ex-U.S.S. *LSM* 331) **LSM 3** (ex-U.S.S. *LSM* 343)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*)×34½×8½ feet
Guns:	2—40 mm. AA.
Machinery:	Diesel direct drive. 2 shafts. B.H.P.: 2,800=12·5 kts.
Complement:	59

Notes

Medium landing ships transferred to Spain at Bremerton, Washington, on 25 Mar. 1960.

5 "K" Type

K 1 **K 2** **K 3** **K 4** **K 5**

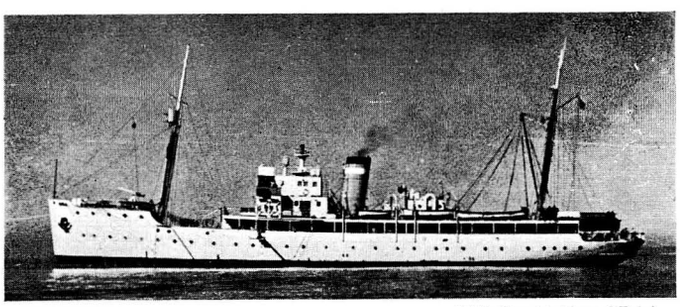
Displacement:	600 tons *standard* (894 tons *full load*)
Dimensions:	185¾×38×10½ feet
Guns:	2—20 mm. AA.
Machinery:	B.H.P.: 1,000=7 kts.

Notes

Three of particulars given above built by Bazan, Ferrol. Other two of British LCT (4) Type, 440 tons *standard* (720 tons *full load*) with a speed of ten knots. Rated as *Barcazas de Desembarco*.

(There are also 13 LCMs (*Lanchas de Desembarco*) numbered LCM 1 to LCM 13, and 5 LCPs numbered LCP 1 to LCP 5.)

SURVEYING VESSELS (*Buques Hydrografos*)



MALASPINA 1957. *Spanish Navy Official*

2 "Tofino" Class

MALASPINA (ex-*Bausa*) **TOFIÑO**

Displacement:	990 tons *standard* (1,200 tons *full load*)
Dimensions:	224×35×11 feet
Guns:	1—47 mm., 2 M.G. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 850=12·5 kts.
Boilers:	2 Yarrow
Fuel:	190 tons
Complement:	130

Notes

Built by Matagorda, Cadiz and Ferrol, respectively. Launched on 13 Sep. 1935 and 21 Aug. 1933, respectively.

1 "Cosa" Type

JUAN DE LA COSA (ex-*Artabro*)

Displacement:	770 tons *standard* (1,026 tons *full load*)
Dimensions:	177½×35½×8¾ feet
Machinery:	Burmeister & Wain diesels, electric drive. B.H.P.: 700=9 kts.

Notes

Built by U.N.L., Valence. Launched in 1935. Carries one aircraft. Photograph in the 1950-51 to 1957-58 editions.

PATROL VESSELS (*Guardacostas*)

2 New Construction

Displacement:	934 tons
Dimensions:	183¾×32¾×12 feet
Guns:	2—37 mm. AA., 2—20 mm. AA.
Mines:	24
Machinery:	Speed=14·5 kts.

Notes

These vessels, and the vessels below, are rated as coastguard patrol vessels.

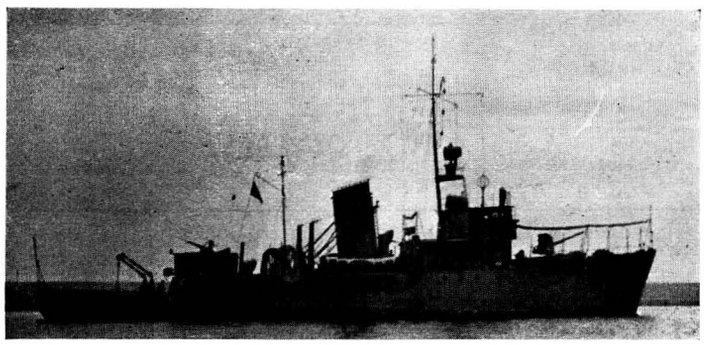
2 "Centinela" Class

CENTINELA **SERVIOLA**

Displacement:	270 tons
Dimensions:	119×22½×9¾ feet
Guns:	1—37 mm.
Machinery:	B.H.P.: 450=12 kts.

Notes

Completed as A.S.T.A.B.N.O., Ferrol, in 1953. Rated as Fishery Protection Vessels (*Guardapescas*).



PEGASO 1961, *Spanish Navy, Official*

2 "Pegaso" Class

PEGASO **PROCYON**

Displacement:	437 tons *standard* (503 tons *full load*)
Dimensions:	137¾×27×9½ feet
Guns:	1—3 inch AA., 2—20 mm. AA.
Machinery:	Diesels. 1 shaft. B.H.P.: 530=12 kts.
Oil fuel:	66 tons
Radius:	3,500 miles at 9 kts.
Complement:	37

Notes

Both commissioned for service at Cartagena in Jan. 1951. Rated as Coastguard Vessels (*Guardacostas*). A photograph of *Procyon* appears in the 1951-52 to 1960-61 editions.

2 "Cies" Class

CIES **SALVORA**

Displacement:	180 tons
Dimensions:	105×20¾×8½ feet
Guns:	1—37 mm.
Machinery:	B.H.P.: 300=12 kts.

Notes

Purchased in Dec. 1952. Rated as Fishery Protection Vessels (*Guardapescas*).

2 "Mersey" Type

ARCILA (ex-*William Doak*) **XAUEN** (ex-*Henry Cramwell*)

Displacement:	750 tons
Dimensions:	138½ (*pp.*), 148 (*o.a.*)×23¾×15¾ feet (*Xauen*, 17 feet)
Guns:	2—3 inch (*Xauen*, 1—3 inch, 1—47 mm. AA.)
Machinery:	I.H.P.: 500=10 kts.
Coal:	200 tons
Complement:	39

Notes

"Mersey" type trawlers. Launched in 1918 by Goole S. B. & Rep. Co., and Lobnitz *Arcila* is rated as a *guardcosta* and *Xauen* as an *oceanograficos*.

1 "Azor" Type

AZOR

Displacement:	375 tons
Machinery:	Speed=12 kts.

Notes

Rated as a Fishery Protection Launch (*Lancha Guardapescas*). Used as the Caudillo's yacht.

1 Trawler Type

UAD KERT (ex-*Rother*, ex-*Anthony Aslett*)

Displacement:	640 tons
Dimensions:	130 (*pp.*)×23½×15½ feet
Guns:	2—3 inch
Machinery:	I.H.P.: 500=9·5 kts.
Coal:	200 tons
Complement:	39

Notes

Built by Cochrane & Sons Ltd., Selby. Launched in 1917. "Special" type trawler.

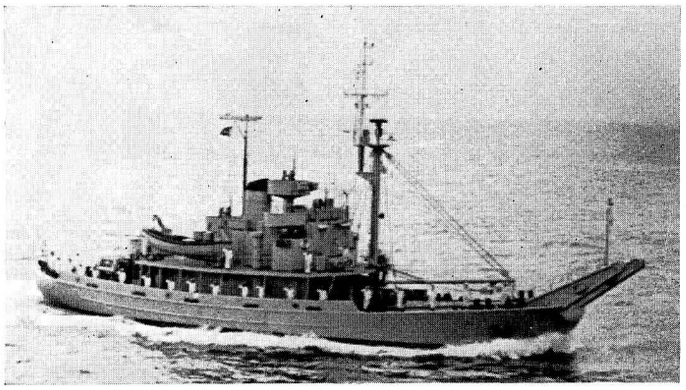
COASTAL LAUNCHES (*Lanchas de Vigilancia*)

V 2	Displacement: 22 tons. Guns: 1—7 mm. Speed: 6·7 kts.
V 3	Displacement: 10 tons. Guns: 1—7 mm. Speed: 7·5 kts.
V 4	Displacement: 65 tons. Guns: 1—7 mm. Speed: 9 kts.
V 5	Displacement: 4·5 tons. Guns: 1—7 mm. Speed: 5 kts.
V 7	Displacement: 20 tons. Guns: 1—7 mm. Speed: 8·5 kts.
V 8	Displacement: 26·5 tons Guns: 1—7 mm. Speed: 7·8 kts.
V 9	Displacement: 15·6 tons. Guns: 1—7 mm. Speed: 9 kts.
V 10	Displacement: 11·69 kts. Guns: 1—7 mm. Speed: 9·5 kts.
V 11	Displacement: 11·69 tons. Guns: 1—7 mm. Speed 9·5 kts.
V 12	Displacement: 28 tons. Guns: 1—7 mm. Speed: 7·8 kts.
V 13	Displacement: 45·1 tons. Guns: 1—7 mm. Speed: 7·8 kts.
V 17	Displacement: 110·9 tons. Guns: 1—13 mm. Speed: 10·5 kts.
V 18	Displacement: 116 tons. Guns: 1—13 mm. Speed: 6 kts.
V 19	Displacement: 42 tons. Guns: 1—13 mm. Speed: 8·5 kts.
V 20	Displacement: 14 tons. Guns: 1—13 mm. Speed: 19·2 kts.
V 21	Displacement: 16 tons. Guns: 1—13 mm. Speed: 17·6 kts.

Notes

There is also *V 1*. Coastal launches employed on surveillance and fishery protection duties, *lanchos guardapescas*, except *V 17*, rated as *patrullero*. *V 4* is named *Alcatraz*, *V 12* is named *Esturion* and *V 18* is named *Lanzon*. Photograph of *V 20* in the 1957-58 edition.

BOOM DEFENCE VESSEL (*Cala-Redes*)



CR 1 1958, *Spanish Navy, Official*

CR 1 (*ex-G 6*)

Displacement:	560 tons *standard* (770 tons *full load*)
Dimensions:	149½ × 33½ × 10½ feet
Guns:	1—40 mm. AA., 1—20 mm. AA.
Machinery:	2 diesels with electric drive. B.H.P.: 1,600 = 12 kts.

Notes
Built by Penhoët, France, as a United States "off-shore" order. Launched on 28 Sep. 1954. Transferred from the U.S. in 1955 under the Mutual Defense Assistance Program.

TRAINING SHIP (*Buque-Escuela*)

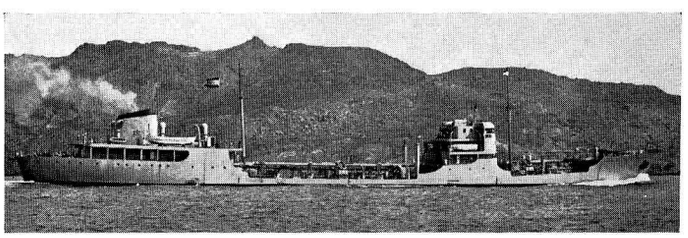
JUAN SEBASTIAN DE ELCANO

Displacement:	3,420 tons (*at three-quarters load*)
Dimensions:	269¼ (*pp.*) 308½ (*o.a.*) × 43 × 23 feet (*full load*)
Guns:	4—6 pdr.
Machinery:	1 Sulzer diesel motor. 1 screw. B.H.P.: 800 = 9·5 kts.
Oil fuel:	230 tons
Endurance:	10,000 miles at 9·5 kts.
Complement:	224 + 80 Cadets

Notes
Four-masted schooner. Named after the first circumnavigator of the world (1519-26) who succeeded to the command of the expedition led by Magallanes after the latter's death. Built by Echevarrieta Yard, Cadiz. Launched on 5 Mar. 1927. Completed in 1928. Photograph in the 1952-53 to 1957-58 editions.

Recent Disposal
The training ship *Galatea* (ex-*Clarastella*), latterly used as a store ship, was removed from the list in 1961.

OILERS



TEIDE 1958, *Spanish Navy, Official*

TEIDE

Displacement:	7,205 tons
Dimensions:	385½ × 48½ × 20⅓ feet
Guns:	1—4·1 inch
Machinery:	2 diesels. B.H.P.: 2,800 = 12 kts.

Notes
Ordered from Factoria de Bazan, Cartagena, in December 1952. Laid down on 11 Nov. 1954. Launched on 20 June 1955. In service October 1956.

PP 1 **PP 2**

Displacement:	470 tons
Dimensions:	138 (*pp.*), 147½ (*o.a.*) × 25 × 9½ feet
Machinery:	Deutz diesel. B.H.P.: 220 = 10 kts.
Complement:	12

Notes
Both built at Santander and launched in 1939. Small service tankers.

PLUTON (*ex-Campilo*)

Displacement:	4,550 tons (in light condition)
Dimensions:	342½ × 53¾ × 19½ feet
Machinery:	2 sets B. & W. diesels B.H.P.: 2,530 = 13·5 kts.

Notes
Built at Valencia. Diesels built at Barcelona. Launched in 1931. Purchased in Dec. 1934. Photograph in the 1954-55 to 1961-62 editions.

SURVEYING TENDERS (*Launches*)

H 2 **H 3**

Displacement:	256 tons
Dimensions:	100 × 20 × 9 feet
Machinery:	. H.P.: 300

Notes
Both launches employed as surveying tenders. Sister ship *H 1* was stricken off in 1952.

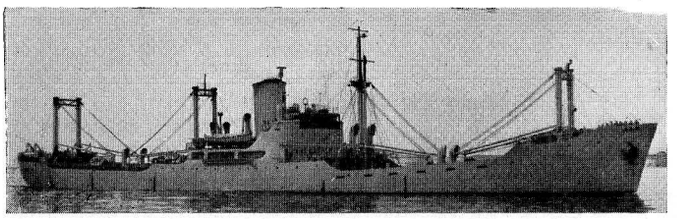
AUXILIARY PATROL VESSELS

RR 10 **RR 19** **RR 20** **RR 28**

Displacement:	454 tons
Dimensions:	124 × 27½ × 10 feet
Guns:	1—47 mm., 1—20 mm. AA.
Machinery:	1 shaft. I.H.P.: 800 11·5 kts.
Coal:	200 tons
Radius:	1,000 miles at 10 kts.

Notes
Former tugs. All launched in 1941-42. Now patrol vessels. Photograph in 1957-58 edition.

TRANSPORT



ALMIRANTE LOBO 1956, *courtesy Señor A. Aguilera*

ALMIRANTE LOBO (*ex-Torrelaguna*)

Displacement:	7,750 tons
Dimensions:	342 × 48 × 22 feet
Guns:	1—4·1 inch
Machinery:	1 triple expansion. I.H.P.: 2,260 = 12 kts.

Notes
Ex-cargo vessel. Built at Astilleros Echevarrieta, Cadiz. Commissioned on 4 Oct. 1954. (There are also 7 water carriers, *aljibes*, A 1, 2, 3, 4, 6, 7 and 8).

Recent Disposal
The transport *Tarifa* (ex-*Castillo Arevale*) was removed from the effective list in 1960.

TUGS (*Remolcadores*)

RA 1 **RA 2**

Displacement:	934 tons
Dimensions:	184 × 32⅔ × 12 (*max.*) feet
Guns:	1—37 mm.
Machinery:	2 diesels. B.H.P.: 3,200 = 15 kts.

Notes
Ordered in 1949. Built at Factoria de Bazan, Cartagena. Launched on 2 Sep. 1954 and 5 Oct 1954, commissioned on 9 July 1955 and 12 Sep. 1955, respectively.

RS 3 (*ex-Metinda III*)

Displacement:	762 tons *standard* (1,080 tons *full load*)
Dimensions:	137 × 33⅛ × 15½ feet
Machinery:	Triple expansion. 12 kts. (*max.*), 10 kts. (*service*)

Notes
Purchased in Great Britain. *RA 3* (ex-*RA 2*, ex-*Argos*), was officially deleted from the list in 1962.

RR 25

Notes
Displacement: 300 tons Built by La Carraca Dockyard, Cadiz. Launched on 26 Mar. 1944

RR 15 **RR 16** **RR 17**

Displacement:	434 tons
Dimensions:	124 × 27½ × 10 feet
Machinery:	I.H.P.: 800 = 11·5 kts.

RR 11

Displacement:	279 tons
Dimensions:	111½ × 20 × — feet
Machinery:	I.H.P.: 600 = 11 kts.

RR 12 (*ex-Cartagenero, ex-H.S. 78*) **RR 14** (*ex-Gaditano, ex-H.S. 82*)

Displacement:	235 tons
Dimensions:	83½ × 21½ × 10½ feet
Guns:	1—6 pdr.
Machinery:	H.P.: 420 = 10 kts.

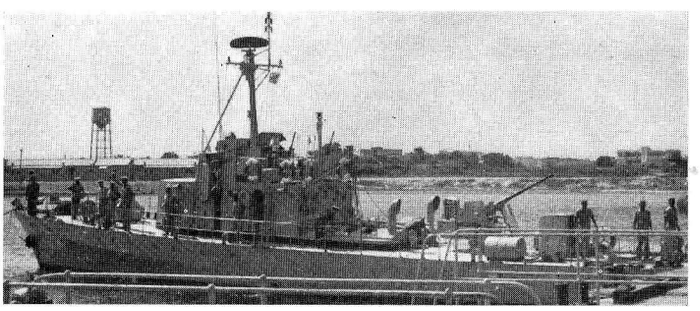
Notes
Built by Crichton & Co., South Saltney, Chester, England. Launched in 1918

SUDAN

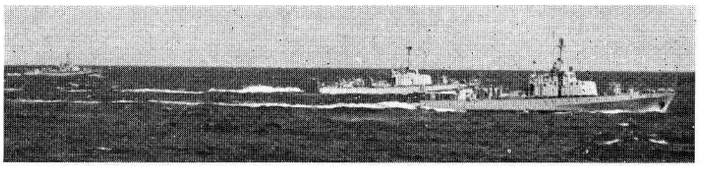
It was officially stated in 1962 that Sudan recently purchased four patrol boats (see below) as the first group in establishing her Navy, and is planning to increase and equip the new Navy to secure and guard the coast of the Red Sea.

Naval, Military and Air Attaché in London: Col. S. Ibrahim Mohamed Suleiman.

PATROL BOATS



PB 1 1962, *Sudan Navy, Official*



PB 2, PB 3, PB 4 1962, *Sudan Navy, Official*

	GIHAD	HORRIYA	ISTIGLAL	SHAAB
Displacement:	100 tons			
Dimensions:	115 × 16⅓ × 5½ feet:			
Guns:	1—40 mm. AA., 1—20 mm. AA., 2—7.6 mm. AA. M.G.			
Machinery:	Mercedes Benz diesels 2 shafts. B.H.P. : 1,800 = 20 kts.			
Radius:	1,400 miles			
Complement:	20 officers and men.			

Notes
Built by Mosor Shipyard, Trogir, Yugoslavia. Of steel construction. First craft acquired by the newly established Sudanese Navy. Length also reported as 90 feet.

ROYAL SWEDISH NAVY

Administration

Commander-in-Chief of the Navy (including Coast Artillery):
Vice-Admiral Å. F. Lindemalm.

President of the Navy Technical and Administrative Board:
Rear-Admiral A. G. Jedeur-Palmgren.

Commander-in-Chief of Active Fleet:
Rear-Admiral E. Blidberg.

Naval Attaché in London:
Captain Bengt A. G. Hedlund, R.Sw.N.

New Construction Programme

Plan " OB—62 " comprises:—
2 Guided Missile Frigates (ship-air)
10 Submarines (A 11 type)
12 Motor Torpedo Boats (T 121 type)
20 Motor Gunboats ...
9 Minesweepers (including M 66—M 68)

Navy Estimates

1959-60: 396,500,000 kr.; 1960-61: 389,500,000 kr.

Personnel

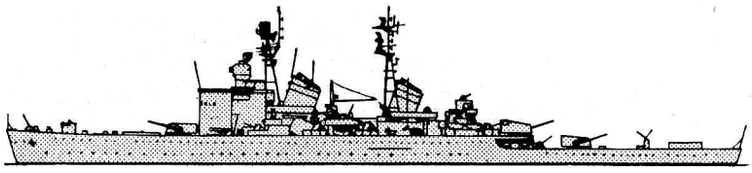
1962: Active List of Navy and Coast Artillery, 10,490 officers and men, including conscripts.

Mercantile Marine

Lloyd's Register of Shipping:
1,243 vessels of 3,996,335 tons *gross*

Silhouettes

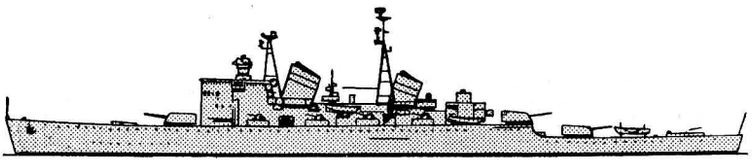
Scale: 150 feet = 1 inch.



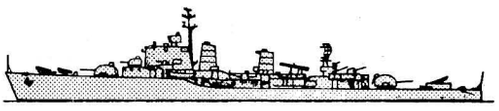
GÖTA LEJON



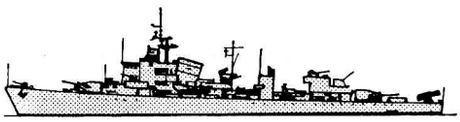
ÖSTERGÖTLAND *Class*



TRE KRONOR



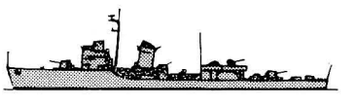
HALLAND *Class*



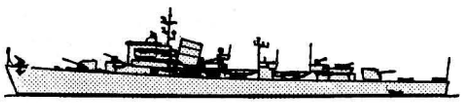
ÖLAND



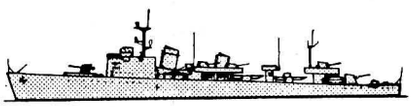
VISBY *Class*



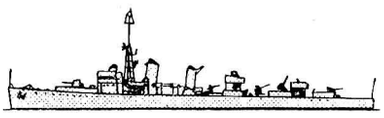
MJÖLNER *Class*



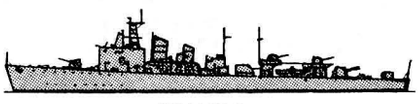
UPPLAND



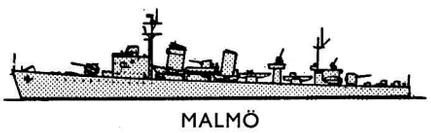
GÄVLE



EHRENSKÖLD, NORDENSKJÖLD



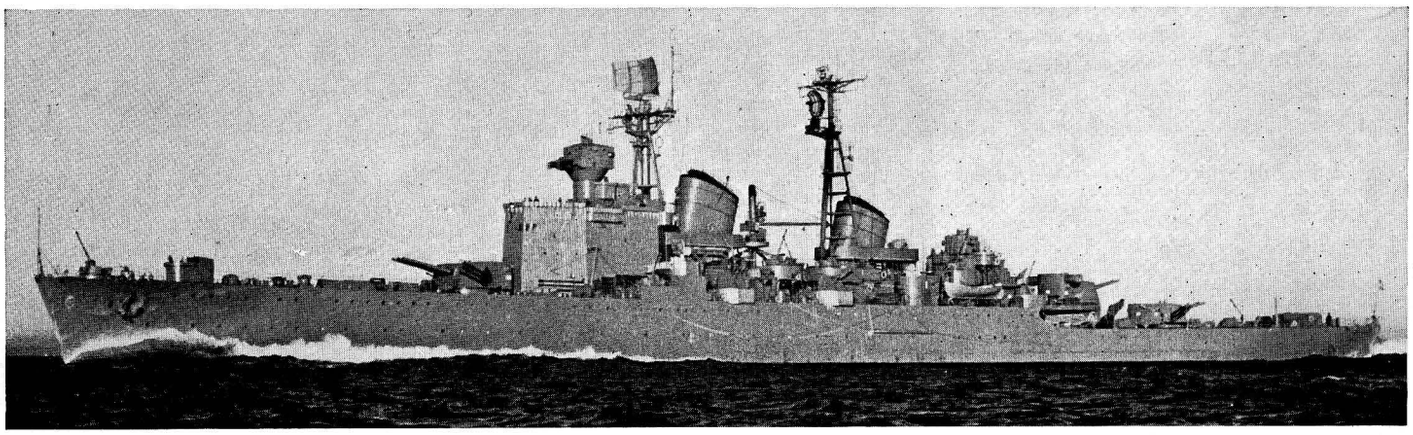
KALMAR



MALMÖ



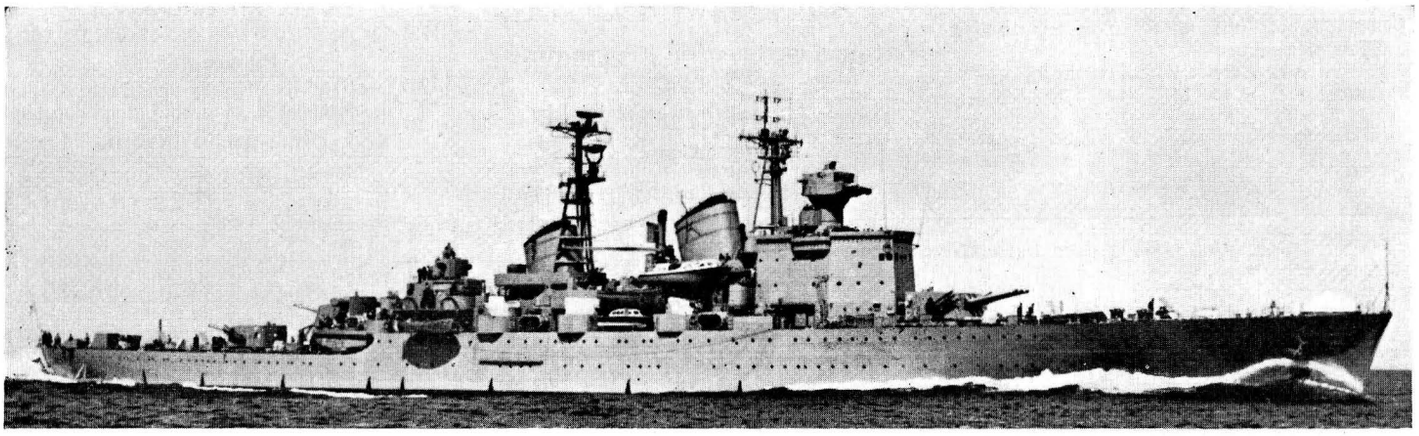
ÄLVSNABBEN (after rearmament)



GÖTA LEJON (see next page)

1959, *Royal Swedish Navy, Official*

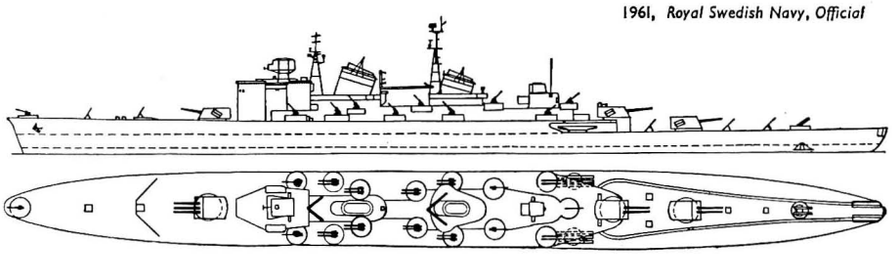
CRUISERS



TRE KRONOR

1961, *Royal Swedish Navy, Official*

2 "Tre Kronor" Class



	GÖTA LEJON	TRE KRONOR
Name:	*Göta Lejon*	*Tre Kronor*
Builders:	Eriksberg Mekaniska Verkstad, Göteborg	Götaverken, Göteborg
Laid down:	27 Sep. 1943	27 Sep. 1943
Launched:	17 Nov. 1945	16 Dec. 1944
Completed:	15 Dec. 1947	18 Oct. 1947
Displacement:	8,200 tons *standard* designed (9,200 tons *full load*) officially revised figures	
Dimensions:	Length: 571 (*pp.*), 590½ (*w.l.*), 597 (*o.a.*) feet. Beam: 54 feet. Draught: 19½ (*mean*), 21½ (*max.*) feet	
Guns:	*Göta Lejon:* 7—6 inch, 53 cal. Bofors AA., 4—57 mm. Bofors AA., 11—40 mm. Bofors AA. *Tre Kroner:* 7—6 inch, 53 cal. Bofors AA., 27—40 mm. Bofors AA.	
Tubes:	6—21 inch, D.C.T.	
Armour:	Exceptionally strong, 3"-5" side	
Machinery:	2 sets De Laval geared turbines. 2 shafts. S.H.P.: 100,000=33 kts.	
Boilers:	4 Swedish 4-drum type	
Complement:	26 officers, 429 ratings (peace); 30 officers, 618 ratings (war)	

General Notes

The contracts for these ships were signed in Feb 1943, the original design having been considerably modified in 1942. Cost was estimated at 74,000,000 kroner each. Radar control arrangements were installed for 6-inch guns. Fitted for minelaying with a capacity of 120 mines. Both ships were reconstructed in 1951-52. *Göta Lejon* was modernised in 1958, with new radar, 57 mm. guns, etc.

Gunnery Notes

The 6-inch guns are high angle anti-aircraft weapons with an elevation of 70 degrees and are automatic. The 9—25 mm. AA. pieces formerly mounted were suppressed in 1951 and 7—40 mm. AA. were weapons added.

Notes to Drawing

Port elevation and Plan. Scale: 128 feet=1 inch

Appearance Notes

Light tripod masts have been stepped as shown in photos. Both ships now have an enclosed tower bridge structure.

Recent Disposals

The two very old armoured ships *Drottning Victoria* and *Gustaf V*, were discarded in 1958. *Gustaf V* was still used as an accommodation ship in 1962.

The old anti-aircraft cruiser *Gotland* was sold in 1961, it is officially stated.

DESTROYERS (*Jagare*)



OSTERGOTLAND

Added 1962, Wright & Logan

4 "Östergötland" Class

	GÄSTRIKLAND HÄLSINGLAND	ÖSTERGÖTLAND SÖDERMANLAND
Displacement:	2,150 tons *standard* (2,600 tons *full load*) officially revised figures	
Dimensions:	367¼ (*pp.*), 380 (*o.a.*) × 36¾ × 12 feet	
Guns:	4—4·7 inch,	*Östergötland* 7—40 mm. AA., others 5—40 m.m. A.A.
Guided Missiles:		*Södermanland:* to have "Seacat"
Tubes:	6—21 inch	
A/S weapons:	Triple barrelled depth charge mortar	
Mines:	60 (capacity) can be carried	
Machinery:	De Laval turbines. 2 shafts. S.H.P.: 40,000=35 kts.	
Boilers:	2 Babcock & Wilcox	
Oil fuel:	330 tons	
Radius:	2,200 miles at 20 kts.	
Complement:	244	

Fennant No.:	*Name*	*Builders:*
22	*Gästrikland*	Götavecken, Göteborg
23	*Hälsingland*	Kockums Mek, Verkstads A/B., Malmö
20	*Östergötland*	Götaverker, Göteborg
21	*Södermanland*	Eriksberg Mekaniska Verkstad, Göteborg

Name	*Laid down*	*Launched*	*Completed*
Gästrikland	Oct. 1955	6 June 1956	Aug. 1958
Hälsingland	Oct. 1955	14 Jan. 1957	Dec. 1958
Östergötland	Sep. 1955	8 May 1956	Oct. 1957
Södermanland	1 June 1955	28 May 1956	21 Mar. 1958



GÄSTRIKLAND

1959, *Royal Swedish Navy, Official*

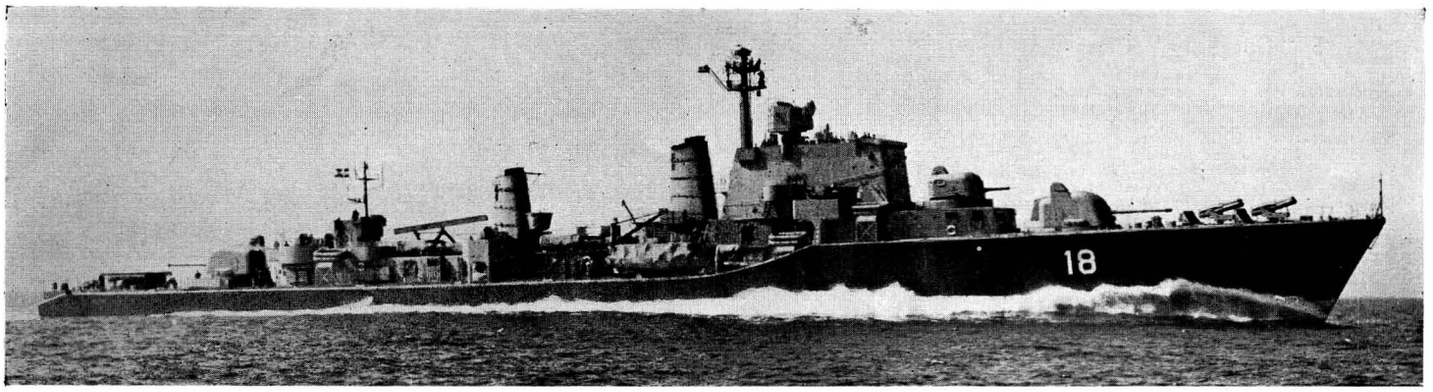
General Notes

These ships have basically the same characteristics as the "Öland" class destroyers with appearance very similar to the "Halland" class destroyers, but have somewhat thinner funnels. They have improved anti-aircraft defence and anti-submarine weapons of the Bofors type.

Photograph Notes

Photographs appear of *Södermanland* in the 1958-59 edition, and of *Hälsingland* in the 1959-60 to 1961-62 editions.

Destroyers—*continued*



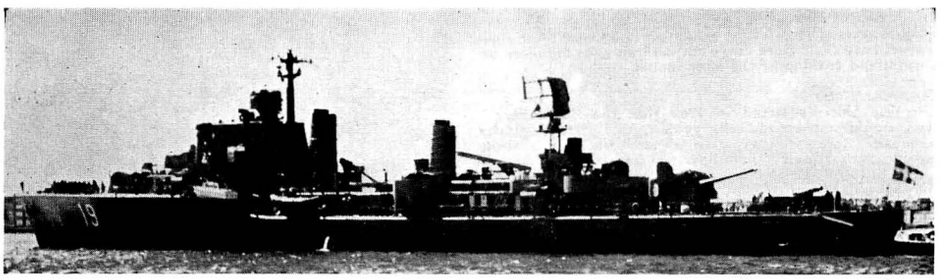
HALLAND

Added 1957, Official

2 " Halland " Class

	HALLAND	**SMÅLAND**
Name:	*Halland*	*Småland*
Pennant No.:	18	19
Builders:	Götaverken, Göteborg	Eriksberg Mekaniska Verkstad, Göteborg
Ordered:	1948	1948
Laid down:	1951	1951
Launched:	16 July 1952	23 Oct. 1952
Completed:	1 Feb. 1955	12 Jan. 1956

Displacement: 2,650 tons *standard* (3,200 tons *full load*)
Dimensions: 380½ (*w.l.*), 397¼ (*o.a.*) × 41 × 14¾ feet
Guns: 4—4·7 inch AA., 2—57 mm. AA., 6—40 mm. AA.
Tubes: 8—21 inch.
Guided weapons: 1 rocket launcher
A/S weapons: 2 four-barrelled depth charge mortars
Mines: Can be fitted for minelaying
Machinery: De Laval double reduction geared turbines. 2 shafts. S.H.P.: 58,000=35 kts.
Boilers: 3
Oil fuel: 500 tons
Radius: 3,000 miles at 20 kts.
Complement: 290



SMÅLAND

1958, *Royal Swedish Navy, Official*

Notes
The first Swedish destroyers of post-war design and construction. These large destroyers have fully automatic gun turrets and ahead throwing anti-submarine weapons of the Bofors type, forward. It is officially stated that they will be equipped with guided missiles.

Cancellation Notes
Two sister ships, to have been named *Lappland* and *Värmland*, were cancelled in 1958, it was officially stated.

2 " Öland " Class

	ÖLAND	**UPPLAND**
Name	*Öland*	*Uppland*
Pennant No.:	16	17
Builders:	Kockums Mek. Verkstads A/B., Malmö	Karlskrona Dockyard
Laid down:	1943	1943
Launched:	15 Dec. 1945	5 Nov. 1946
Completed:	1948	1947

Displacement: 1,990 tons *standard* (2,400 tons *full load*) officially revised figures
Dimensions: 351 (*pp.*), 364¼ (*o.a.*) × 36¾ × 11¼ feet
Guns: 4—4·7 inch (d.p.), 6—40 mm. AA. 8—20 mm. AA.
Tubes: 6—21 inch (tripled)
Mines: 60
Machinery: De Laval geared turbines. 2 shafts. S.H.P.: 44,000=35 kts.
Boilers: 2 Penhoët
Oil fuel: 300 tons
Radius: 2,500 miles at 20 kts
Complement: 210



OLAND

Added 1962, Wright & Logan

General Notes
The superstructure and machinery spaces are lightly armoured. Fitted for minelaying.

Gunnery Notes
The 4·7 inch guns are semi-automatic, with an elevation of 80 degrees. The 40 mm. AA. gun near the jackstaff has been removed, it was officially stated in 1962.

Reconstruction Notes
Öland was modernised in 1959 with a new bridge, see new photograph above showing her appearance after the reconstruction. *Uppland* was modernised with a new bridge and a helicopter platform in 1962.

Photograph Notes
A photograph of *Uppland* appears in the 1955-56 to 1961-62 editions.

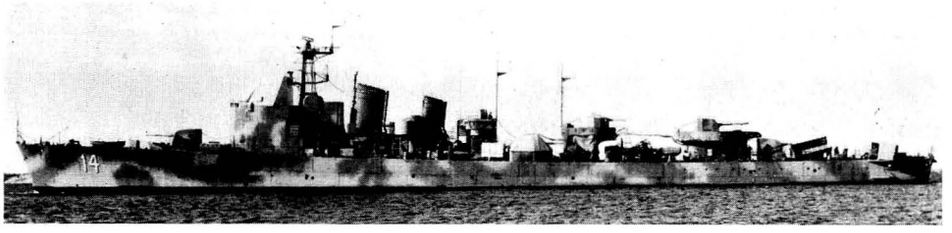
4 "Visby" Class

	HÄLSINGBORG KALMAR	**SUNDSVALL VISBY**
Displacement:	1,150 tons *standard* (1,320 tons *full load*)	
Dimensions:	310 (*w.l.*), 320 (*o.a.*) × 30 × 12½ feet	
Guns:	*Sundsvall and Visby:* 3—4·7 inch, 4—40 mm. AA., 4—20 mm. AA.	
	Hälsingborg and *Kalmar;* 3—4·7 inch, 3—40 mm. AA., 4—20 mm. AA.	
Tubes:	*Sundsvall* and *Visby:* 6—21 inch (tripled); *Hälsingborg* and *Kalmar:* 5—21 inch (quintupled).	
A/S weapons:	2 D.C.T.	
Machinery:	De Laval geared turbine. 2 shafts. S.H.P.: 36,000=39 kts.	
Boilers:	3, of 3-drum type	
Oil fuel:	150 tons	
Radius:	1,600 miles at 20 kts.	
Complement:	140	

General Notes
Kalmar was laid down on 16 Nov 1942; *Visby* was laid down on 29 Apr. 1942. All fitted for minelaying.

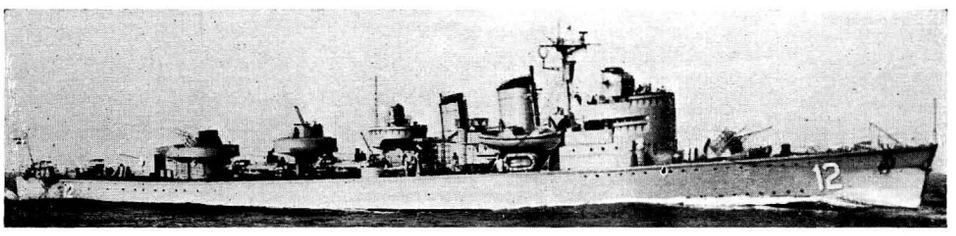
Conversion Notes
It is officially stated that the " Visby " class will be converted into frigates, *Sundsvall* and *Visby* in 1960-63, and the other two in 1964-70.

No.	*Name*	*Builders*	*Launched*	*Completed*
13	*Hälsingborg*	Götaverken	23 Mar. 1943	1943
14	*Kalmar*	Eriksberg	20 July 1943	1944
12	*Sundsvall*	Eriksberg	20 Oct. 1942	1943
11	*Visby*	Götaverken	16 Oct. 1942	1943



KALMAR

1962, *Royal Swedish Navy, Official*



SUNDSVALL

1953, *Royal Swedish Navy, Official*

FAST ANTI-SUBMARINE FRIGATES (ex-Destroyers) Rated as *Fregatter*

5 "Göteborg" Class

GÄVLE
KARLSKRONA
MALMÖ
NORRKÖPING
STOCKHOLM

Displacement:	1,250 tons *standard*, *Malmö* 1,150 tons *standard* (1,400 tons *full load*) *Malmö* 1,300 tons *full load*. Officially revised figures.
Dimensions:	304 (*w.l.*), 310½ (*o.a.*) × 31⅞ (*Malmö*) 29½ × 12½ feet
Guns:	3—4·7 inch, 4—40 mm.
A/S weapons:	2 D.C.T. *Gävle* as refitted has 18 rocket launchers
Tubes:	6—21 inch (tripled)
Mines:	20 to 60
Machinery:	De Laval geared turbines. 2 shafts. S.H.P.: 32,000=39 kts.
Boilers:	3 Penhoët
Oil fuel:	150 tons
Radius:	1,200 miles at 20 kts.
Complement:	130

General Notes
Stockholm was laid down in 1933. She is now in reserve. *Gävle* has been refitted for anti-submarine warfare.

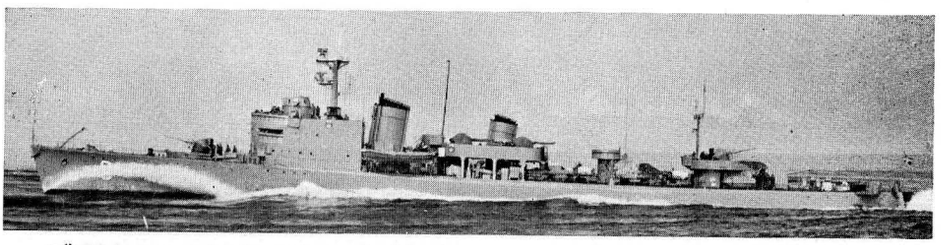
Reconstruction Notes
As converted into fast anti-submarine escorts these destroyers have their close range anti-aircraft guns mounted on a bandstand enveloping the after funnel.

Conversion Notes
It was officially stated in 1960 that the "Göteberg" class would not be radically rebuilt, as it was originally intended, although they have already undergone some modification, bringing them near the frigate type.

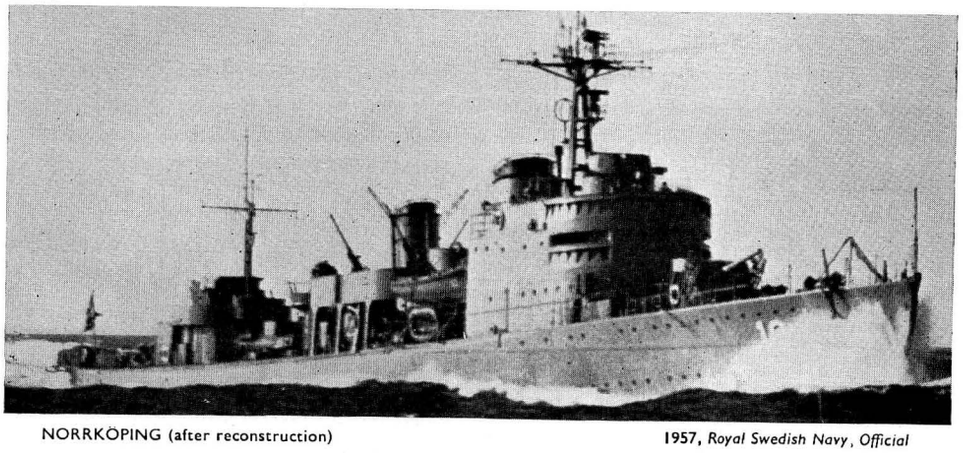
Reclassification Notes
It was officially stated in 1961 that as from 1 Jan. 1951 this class were rated as frigates (*fregatter*).

Photograph Notes
A port broadside view of *Malmö* appears in the 1956-57 to 1960-61 editions.

No.	*Name*	*Builders*	*Launched*	*Completed*
9	*Gävle*	Götaverken	25 Sep. 1940	1941
8	*Karlskrona*	Karlskrona	16 June 1939	1940
7	*Malmö*	Eriksberg	22 Sep. 1938	1939
10	*Norrköping*	Eriksberg	5 Sep. 1940	1941
6	*Stockholm*	Karlskrona	24 Mar. 1936	1937



GÄVLE (as converted to fast anti-submarine frigate) 1959, *Royal Swedish Navy, Official*



NORRKÖPING (after reconstruction) 1957, *Royal Swedish Navy, Official*

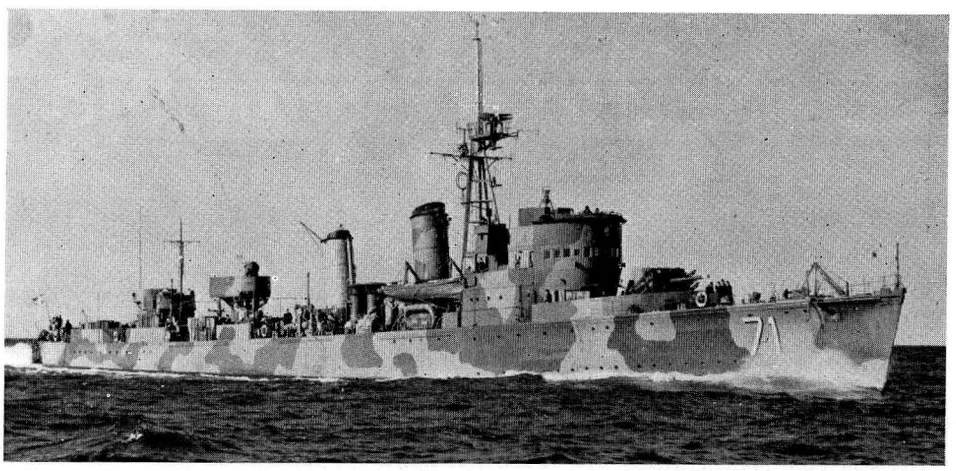
Recent Disposals
It was officially stated in 1958 that *Göteborg* of this class would be scrapped (on 17 Sep. 1941 she was sunk through an accidental explosion, but was subsequently salved and rebuilt, and on trials following her reconstruction, she was reported to have exceeded her original speed).
The older destroyer *Klas Horn* would be scrapped, it was officially stated in 1958.

2 "Ehrensköld" Class

	EHRENSKÖLD	**NORDENSKJÖLD**
Name:	*Ehrensköld*	*Nordenskjöld*
Pennant No.	71	72
Builders:	Kockums Malmö	Götaverken, Göteberg
Laid down:	1924	1924
Launched:	25 Sep. 1926	19 June 1926
Completed:	Dec. 1927	Sep. 1927

Displacement:	1,080 tons *standard* (1,250 tons *full load*)
Dimensions:	293 (*w.l.*) × 29½ × 12½ (*max.*) feet
Guns:	1—4·7 inch, 4—40 mm. AA. 1—20 mm. AA.
A/S weapons:	D.C.T.
Mines:	Fitted for minelaying
Machinery:	Geared turbines, 2 shafts. S.H.P.: 24,000=30 kts.
Boilers:	2 Penhoët
Oil fuel:	170 tons
Radius:	1,600 miles at 20 kts.
Complement:	125

Notes
Former destroyers converted into anti-submarine vessels in 1951 with new armament and submarine hunting and defence gear, and rerated as frigates. Pennant Nos. changed from 21 and 22 to 71 and 72 respectively, in 1953.



EHRENSKOLD *Royal Swedish Navy, Official*

FAST ANTI-SUBMARINE FRIGATES (ex-Coastal Destroyers). Rated as *Fregatter*

4 "Mjölner" Class

MAGNE **MODE** **MJÖLNER** **MUNIN**

Displacement:	760 tons *standard* (960 tons *full load*). Officially revised figures.
Dimensions:	243¾ (*w.l.*), 256 (*o.a.*) × 26½ × 7½ feet
Guns:	2—4·1 inch AA., 2—40 mm. AA.
A/S weapons:	2 D.C.T.
Mines:	Fitted for minelaying
Machinery:	2 De Laval geared turbines. 2 shafts. S.H.P.: 16,000=30 kts.
Boilers:	2, of 3-drum type
Oil fuel:	190 tons
Radius:	1,260 miles at 20 kts
Complement:	100

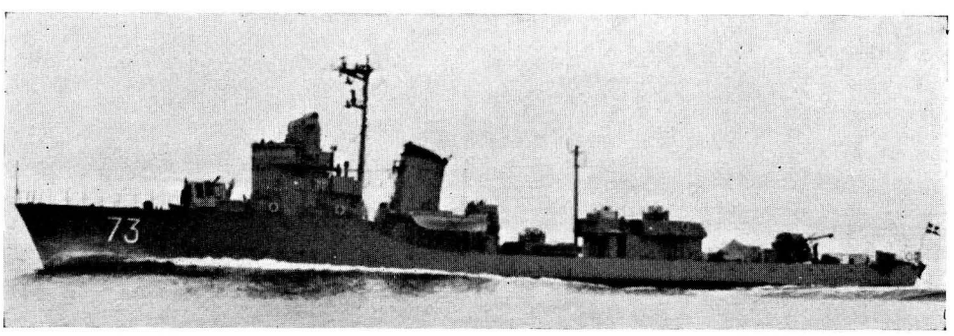
Name	*Pennant Nos.*	*Builders*	*Laid down*
Magne	74	Götaverken	Sep. 1941
Mode	73	Götaverken	Sep. 1941
Mjölner	76	Eriksberg	Sep. 1941
Munin	75	Öresundsvarvet	Sep. 1941

Name	*Launched*	*Completed*	*Converted*
Magne	25 Apr. 1942	1942	1955
Mode	11 Apr. 1942	1942	1955
Mjölner	9 Apr. 1942	1942	1956
Munin	27 May 1942	1942	1955

General Notes
All these ships were formerly rated as seagoing torpedo boats or coastal destroyers (*kustjagare*). They were equipped for minelaying, but were all converted into fast anti-submarine frigates. Their original 3—21 inch torpedo tubes were removed.

Photograph Notes
A port broadside view of *Munin* appears in the 1956-57 to 1959-60 editions, and a starboard bow view of *Mjölner* in the 1960-61 edition.

Recent Disposals
The two coastal destroyers *Remus* (ex-*Astore*) and *Romulus* (ex-*Spica*), former Italian oceangoing torpedo boats, which were to have been converted into fast anti-submarine frigates, were towed away for breaking up in Aug. 1959.



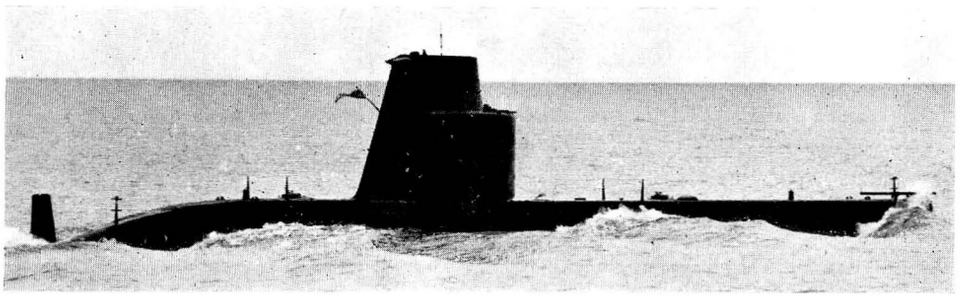
MODE 1961, *Royal Swedish Navy, Official*

SUBMARINES (*Ubåtar*)

New Construction
10 " A 11 " Class

Displacement: 800 tons (officially revised figures)
Tubes: 21 inch
Machinery: New type (same *surface* and *submerged*), 1 screw

Notes
Ten submarines of a new long range type, at present called the " A 11 " class, are included in the new construction programme, it was officially stated in 1962.



DRAKEN — 1962, *Royal Swedish Navy, Official*

6 " Draken " Class

DELFINEN **GRIPEN** **SPRINGAREN**
DRAKEN **NORDKAPAREN** **VARGEN**

Displacement: 835 tons
Dimensions: 227½ × 15¾ × 14¼ feet
Tubes: 21 inch
Machinery: Speed = 16¾ kts. *surface* 25 kts. *submerged*

Notes
These six submarines have fast-diving capabilities.

Only three new submarines were authorised in the 1957 budget, instead of the requested six.

Draken means Dragon, *Gripen* means Griffon and *Vargen* means Wolf.

Distinctive letters painted on the conning tower are: *De, Delfinen;* Nd, *Nordkaparen;* Sp. *Springaren.*

Name	*Builders*	*Launched*	*Completed*
Delfinen	Karlskrona	7 Mar. 1961	1962
Draken	Kockums, Malmo	1 Apr. 1960	2 May 1961
Gripen	Karlskrona	31 May 1960	1961
Nordkaparen	Kockums, Malmo	8 Mar. 1961	1962
Springaren	Kockums, Malmo	31 Aug. 1961	
Vargen	Kockums, Malmo	20 May 1960	1961

6 " Hajen " Class

BÄVERN **ILLERN** **UTTERN**
HAJEN **SÄLEN** **VALEN**

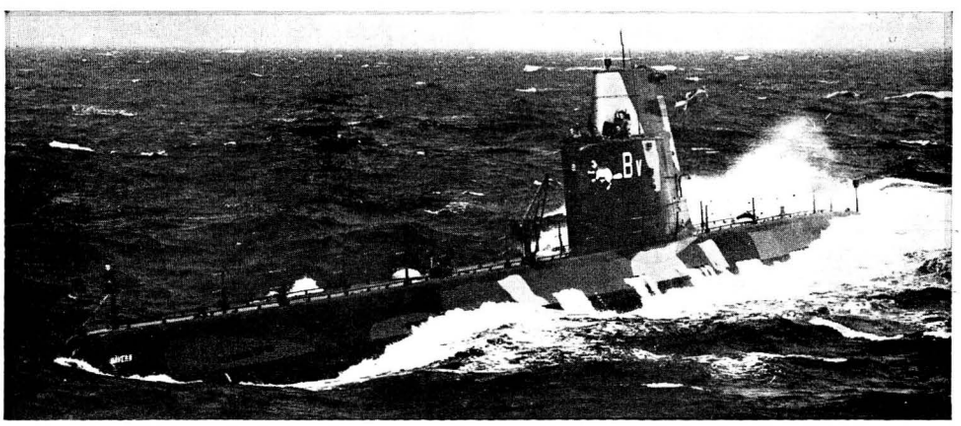
Displacement: 785 tons
Dimensions: 216½ × 16¾ × 19¾ feet
Guns: 1—20 mm. AA.
Tubes: 4—21 inch (8 torpedoes)
Machinery: SEMT Pielstick diesels. Electric motors
Complement: 44

General Notes
All built by Kockums Mekaniska Verkstads Aktiebolag, Malmö, except *Valen* built by the Royal Swedish Naval Dockyard, Karlskrona.

Operational Notes
Equipped with Schnorkel, and have fast-diving capabilities.

Nomenclature Notes
Bävern means Beaver, *Hajen* means Shark, *Illern* means Polecat, *Sälen* means Seal, *Uttern* means Otter, and *Valen* means Whale.

Name	*Builders*	*Launched*	*Completed*
Hajen	Kockums	11 Dec. 1954	1956
Valen	Karlskrona	21 Apr. 1955	1957
Sälen	Kockums	3 Oct. 1955	1957
Illern	Kockums	14 Nov. 1957	1959
Bävern	Kockums	3 Feb. 1958	1959
Uttern	Kockums	14 Nov. 1958	1960



BÄVERN — *1960, Royal Swedish Navy Official*

Appearance Notes
Distinctive letters painted on the conning tower are: Bv, *Bävern;* Hj, *Hajen;* In, *Illern;* Sa, *Sälen;* Ut, *Uttern;* Va, *Valen.*

Photograph Notes
A photograph of *Hajen* appears in the 1957-58 to 1959-60 editions.

3 " Najad " Class

NÄCKEN **NAJAD** **NEPTUN**

Displacement: 550 tons *standard*, 600 tons *surface*, 720 tons *submerged*
Dimensions: 200 × 20⅔ × 11⅙ feet
Tubes: 4—21 inch
Mines: 20. Fitted for minelaying
Machinery: 2 Diesels. 2 shafts B.H.P.: 3,000 = 16 kts. *surface*; 2 electric motors, H.P.: 2,000 = 10 kts. *submerged*
Complement: 32

Notes
All provided under the 1938 programme. These three minelaying submarines were all built by Kockums Mekaniska Verkstads Aktiebolag, Malmo. *Näcken* means Neck, *Najad* means Najad, and *Neptun* means Neptune.

Appearance Notes
Distinctive letters painted on conning tower are: Nä, *Näcken;* Nj, *Najad;* Np, *Neptun*

Photograph Notes
A photograph of *Neptun* appears in the 1952-53 to 1959-60 editions.

Name	*Laid down*	*Launched*	*Completed*
Näcken	Nov. 1941	26 Sep. 1942	Mar. 1943
Najad	Feb. 1942	26 Sep. 1942	May 1943
Neptun	Mar. 1942	17 Nov. 1942	June 1943



NÄCKEN — 1960, *Royal Swedish Navy, Official*

4 " Sjölejonet " Class

SJÖBJÖRNEN (15 Jan. 1938) Seabear
SJÖHÄSTEN (19 Oct. 1940) Seahorse
SJÖORMEN (5 Apr. 1941) Seaserpent
TUMLAREN (7 Sep. 1940) Porpoise

Displacement: 580 tons *standard*, 650 tons *surface*, 760 tons *submerged*
Dimensions: 204 × 20½ × 11 feet
Tubes: 6—21 inch
Machinery: 2 diesels. 2 shafts. B.H.P. 3,000 = 16 kts. *surface*; 2 electric motors. H.P.: 2,000 = 10 kts. *submerged*
Complement: 32

General Notes
All built by Kockums Mek. Verkstads A/B., Malmö. Launch dates and meanings of names given above. Have all been streamlined and modernised.



SJÖHÄSTEN — 1960, *Royal Swedish Navy, Official*

Appearance Notes
Distinctive letters painted on the conning tower are: Sbj, *Sjöbjörnen;* Shä, *Sjöhasten;* Sor, *Sjöormen;* Tu, *Tumlaren.*

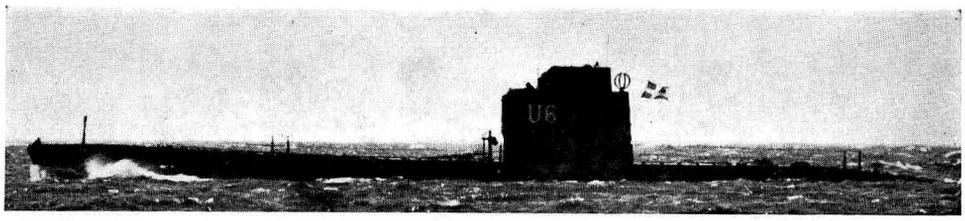
Recent Disposals
Of this class, *Dykaren* (Diver), *Sjöborren* (Seaurchin), *Sjöhunden* (Seadog), *Sjölejonet* (Sealion) and *Svärdfisken* (Swordfish) were stricken in 1960 and are being scrapped.

Submarines—*continued*

6 "U" Class

ABORREN (ex-U5)
MAKRILLEN (ex-U9)
FORELLEN (ex-U4)
LAXEN (ex-U8)
GÄDDAN (ex-U7)
SIKEN (ex-U6)

Displacement:	400 tons *standard*, 430 tons *surface* 460 tons *submerged*
Dimensions:	164 × 17½ × 17½ feet
Tubes:	4—21 inch (3 bow, 1 stern)
Machinery:	2 MAN diesels. B H.P.: 1,500 = 14 kts. *surface*. Electric motor. H.P.: 750 = 9 kts. *submerged*
Complement:	23



U 6

1960, *Royal Swedish Navy, Official*

Notes
All built by Kockums Mek. Verkstads, Malmö (*U* 4, 5 June, 1943, *U* 5 8 July, 1943, *U* 6, 18 Aug. 1943, *U* 7 23 Nov. 1943), and by Karlskrona Naval Dockyard (*U* 8, 25 Apr. 1944, *U* 9, 23 May 1944). Launch dates above. Reconstructed in 1960-63. All have been streamlined (see photograph above). Rated as kustubätar (coastal submarines).

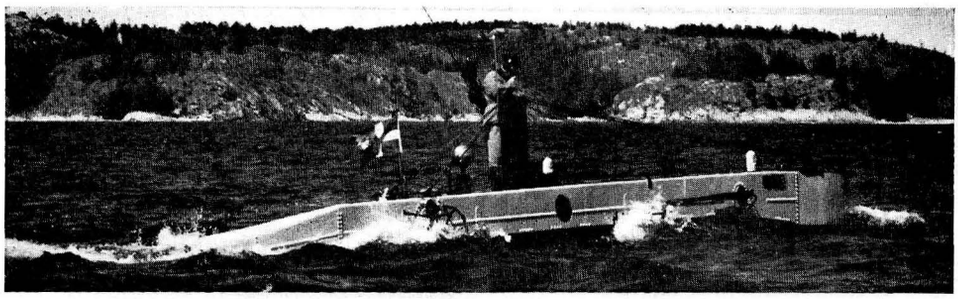
Recent Disposals
Of three sister boats, U 1 was scrapped in 1961, U 2 is for sale in 1962, and U 3 will follow.

1 Ex-British "Midget" Type

SPIGGEN (ex-*Stickleback*, *X* 51)

Displacement:	36 tons *surface*, 41 tons *submerged* (officially revised figures)
Dimensions:	50⅔ (*pp.*) 53⅞ (*o.a.*) 6½ × 7½ feet
Machinery:	Perkins 6-cyl. diesels. 7 kts. *surface*, Electric motors 6 kts. *submerged*.
Complement:	5

Notes
Former British X-craft. Built by Vickers-Armstrongs. Ltd., Barrow. Launched on 1 Oct. 1954. Refitted in 1957-58, Purchased by the Swedish Government. Transferred from Great Britain to Sweden on 15 July 1958. "Spiggen" is actually the Swedish equivalent of "Stickleback".



SPIGGEN

1960, *Royal Swedish Navy, Official*

MINELAYER (*Minfartyg*) Cadets' Seagoing Training Ship

1 Auxiliary Type

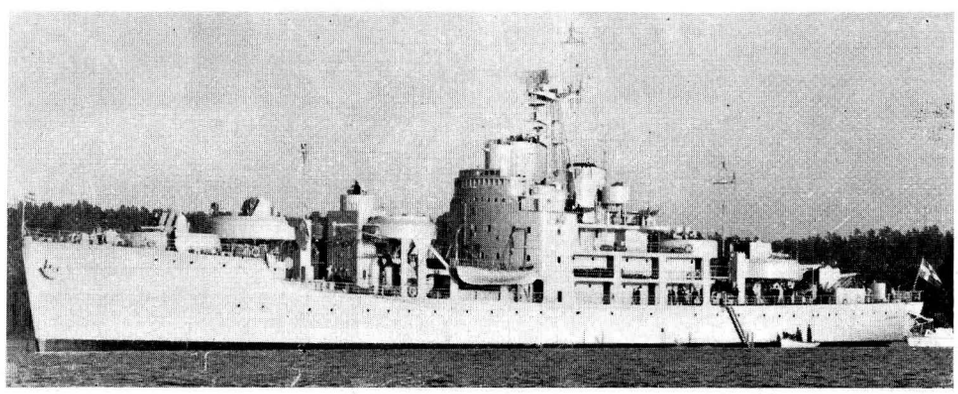
ÄLVSNABBEN

Builders.	Eriksberg Mekaniska Verkstand, Göteborg
Laid down:	Oct. 1942
Launched:	19 Jan. 1943
Completed:	Apr. 1943
Displacement:	4,250 tons *standard* (officially revised figures)
Dimensions:	317½ (*w.l.*), 334⅜ (*o.a.*) × 44½ × 16 feet.
Guns:	2—6 inch, 2—57 mm. AA. Bofors. 4—40 mm. AA. Bofors (see *Rearmament Notes*)
Machinery:	Diesels. 1 shaft. Speed 14 kts.
Complement:	255

General Notes
This ship was completed on a mercantile hull in April 1943 She can be used as a Submarine Parent Ship or a Minesweeper Depot Ship. She was employed as a training ship during 1953-58, and she relieved the anti-aircraft cruiser *Gotland* as Cadets' Seagoing Training Ship in 1959.

Rearmament Notes
This ship was re-armed in 1961. She formerly carried 4—6 inch, 8—40 mm. AA., 6—20 mm.AA.

Disposal Notes
The old minelayer *Clas Fleming* was discarded in 1959, it is officially stated.



ÄLVSNABBEN (as rearmed)

1962, *Royal Swedish Navy, Official*

Cancellation Notes
It was officially stated in 1958 that the construction of a new minelayer, to have been named *Alvsborg* (Displacement: 2,000 tons; Guns: 5—57 mm. AA.; Mines: 250; Speed: 20 kts.) to replace the old *Clas Fleming*, has been cancelled.

SUBMARINE DEPOT SHIP (*Ubåts depåfartyg*)

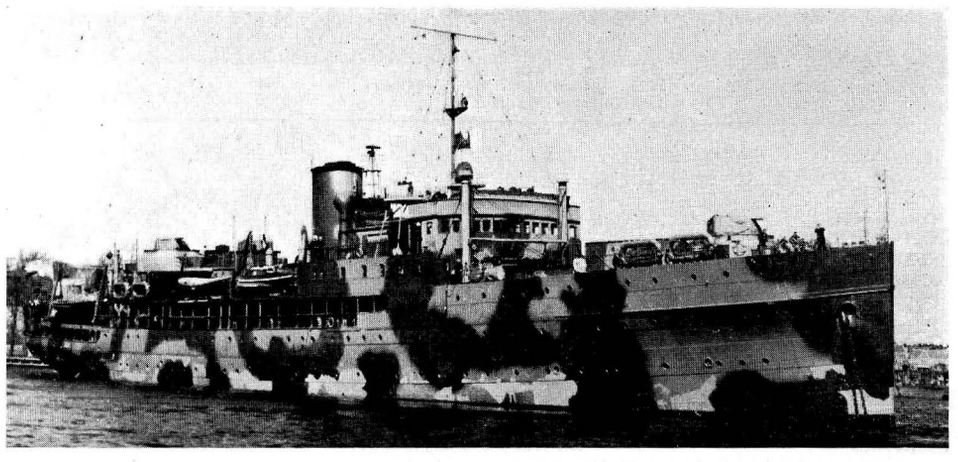
1 Mercantile Type

PATRICIA (ex-*Patris II*)

Builders:	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne
Launched:	1926
Completed:	1926
Displacement:	4,950 tons *standard*
Dimensions:	335 × 47½ × 20 feet
Guns:	8—40 mm. AA., 2—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P. 2,900 = 15 kts.
Boilers:	2 oil fired
Complement:	500 (accommodation for)

Notes
Acquired in 1940. Was reconstructed to increase the accommodation for about 500 men and to maintain and administer nine submarines.

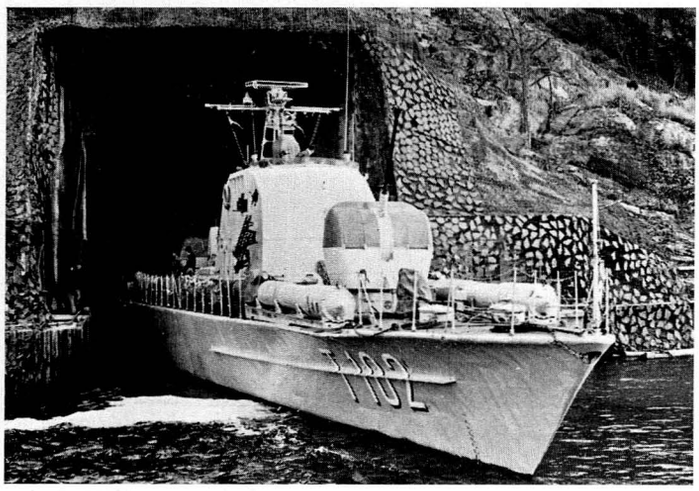
Disposal Notes
The radar training ship *Prins Carl* (ex-*Munin*) was paid off and discarded in 1960.



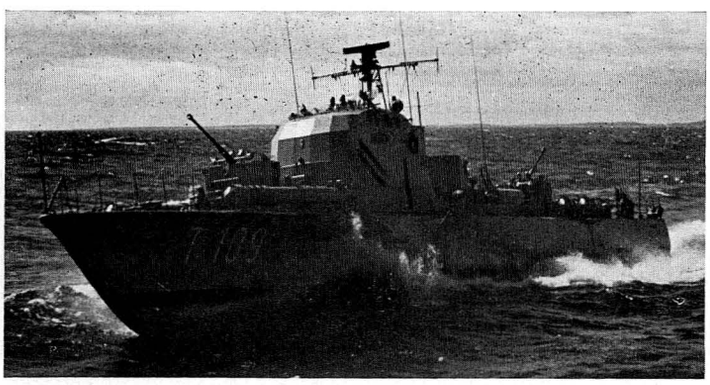
PATRICIA

Added 1962, *Royal Swedish Navy, Official*

MOTOR TORPEDO BOATS (*Motortorpedbåtar*)



PLEJAD (emerging from camouflaged atom bomb-proof rock shelter) 1962, *Royal Swedish Navy*



ANTARES 1960 *Royal Swedish Navy, Official*



PLEJAD 1959, *Oss Jonson*

12 New Construction, Heavy Type

T 121	**T 123**	**T 125**	**T 127**	**T 129**	**T 131**
T 122	**T 124**	**T 126**	**T 128**	**T 130**	**T 132**

Displacement:	200 tons
Guns:	1—57 mm.
Tubes:	6—21 inch
Guided weapons:	Light rocket launchers
Machinery:	Speed=40 kts.

Notes

Sweden is planning six new motor torpedo boats faster and larger than earlier types, and six more will follow. A Proteus gas turbine of 4,250 S.H.P. has been ordered from British Siddeley Engines.

20 New Construction, Armoured Type

Displacement:	120 tons (officially revised figures)
Guns:	1—3 inch (75 mm.), 1—40 mm.
Guided weapons:	Light rocket launchers
Machinery:	Speed=25 kts.

Notes

Heavily armed patrol craft of the armoured gunboat type (*Pansarkanonbat*) being built under the new programme.

12 M.T.B.—M.G.B. Convertibles

ALDEBARAN (T 107)	**ARGO** (T 111)	**POLARIS** (T 103)
ALTAIR (T 108)	**ASTREA** (T 112)	**POLLUX** (T 104)
ANTARES (T 109)	**PERSEUS** (T 101)	**REGULUS** (T 105)
ARCTURUS (T 110)	**PLEJAD** (T 102)	**RIGEL** (T 106)

Displacement:	155 tons (*Perseus* 145 tons) *standard* (170 tons *full load*)
Dimensions:	157½ × 18½ feet (*Perseus* 147¾ × 19 feet)
Guns:	2—40 mm. Bofors AA.
Tubes:	6—21 inch (2 forward, 4 aft), *Perseus* 4—21 inch
Machinery:	3 Daimler-Benz diesels. 3 shafts. B.H.P.: 7,800=37·5 kts. (*Perseus* 37 kts.)
Range:	600 miles at 30 kts.
Complement:	33

Notes

Perseus, built at Karlskrona, was launched in 1950, and completed in 1951, the first of a new convertible type of motor torpedo boat and motor gunboat of experimental design, re-engined with Götaverken machinery to give much greater power. She differs slightly in appearance from the other boats of this group, but her funnel has been removed. The remaining eleven, built at Lürssen, Vegesack, were launched between 1954 and 1959 and all completed by 1960.

P

Motor Torpedo Boats—*continued*



T 42 1957, *Royal Swedish Navy, Official*

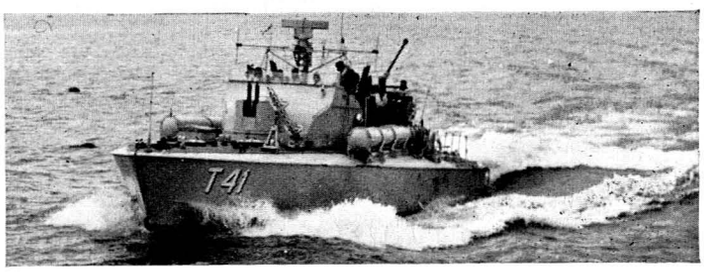
15 "T 42" Type

T 42	**T 45**	**T 48**	**T 51**	**T 54**
T 43	**T 46**	**T 49**	**T 52**	**T 55**
T 44	**T 47**	**T 50**	**T 53**	**T 56**

Displacement:	40 tons *standard*
Dimensions:	75½ × 17 × 5 feet
Guns:	1—40 mm. Bofors AA.
Tubes:	2—21 inch
Machinery:	Speed=40 kts.

Notes

Built by Kockums M.V., Malmö. All launched between 1956 and 1959 and completed by 1960.



T 41 1961, *Royal Swedish Navy, Official*

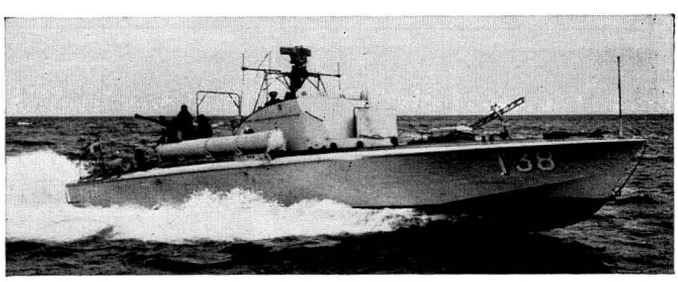
1 Early Type "T 42"

T 41

Displacement:	45 tons *standard*
Dimensions:	75½ × 18¾ × 6 feet
Guns:	1—40 mm. Bofors AA.
Tubes:	2—21 inch
Machinery:	Speed=40 kts.

Notes

Provided under the 1952 Programme. Built by Kockums M.V., Malmö. Launched and completed in 1952.



T 38 1953, *Royal Swedish Navy, Official*

9 Medium Type

T 32	**T 34**	**T 36**	**T 38**	**T 40**
T 33	**T 35**	**T 37**	**T 39**	

Displacement:	40 tons *standard*
Dimensions:	76 × 17 × 4½ feet
Guns:	1—40 mm. Bofors AA., 2 M.G.
Tubes:	2—21 inch
Machinery:	Speed=45 kts.

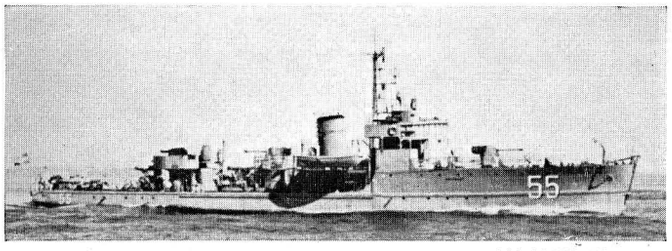
Notes

Launched in 1951-52. Of improved T 31 design. Built by Kockums Mekaniska Verkstads Aktiebolag, Malmö. Of all welded steel construction.

Recent Disposals

Of the small type of motor torpedo boats, T 21, T 22, T 23, T 24, T 25, T26 and T 27 were scrapped in 1959, and T 28, T 29, T 30 and T 31 were scrapped in 1960. The older motor torpedo boats, T 15, T 16, T 17 and T 18 were discarded in 1957

MINESWEEPERS



BREMÖN — *Added 1957, Official*

11 "Bredskär" Class

3 *Eriksberg*
BREDSKÄR 59 (12 Dec. 40)
BREMÖN 55 (18 June 40)
HOLMÖN 56 (5 Sep. 40)

1 *Finnboda*
GRÖNSKÄR 60 (30 Oct. 40)

2 *Lindholmen*
ÖRSKÄR 62 (31 Mar. 41)
RAMSKÄR 61 (28 Oct. 40)

1 *Götaverken*
VINGA 65 (7 Oct. 40)

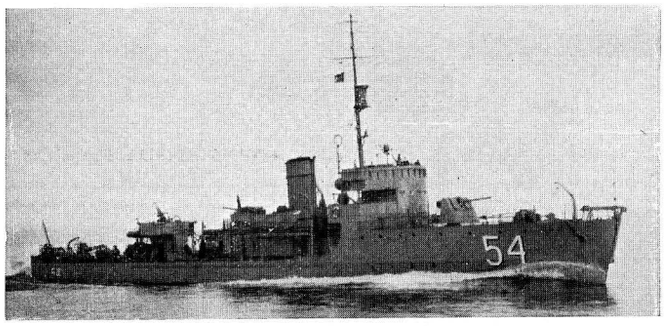
2 *Oskarshamn*
SANDÖN 57 (15 Aug. 40)
ULVÖN 58 (29 Apr. 41)

2 *Öresundsvarvet*
KOSTER 63 (10 Oct. 40)
KULLEN 64 (29 Oct. 40)

Displacement:	450 tons *standard* (530 tons *full load*)
Dimensions:	180 (*pp*), 187 (*o.a.*) × 25 × 8 feet
Guns:	1—4·1 inch, 1—40 mm. AA., 1 M.G. (*Sancän* also has 1—20 m m. A.A.)
Machinery:	De Laval geared turbines. S.H.P.: 3,200 = 17 kts.
Boilers:	2 Vanson
Oil fuel:	70 tons
Complement:	37

Notes

Otherwise of similar design to *Landsort* (see below) All completed in 1940-41. Builders and launch dates above. Pennant numbers are shown after names. Fitted for minelaying. The after deckhouse has been removed, it was officially stated in 1962.



LANDSORT — 1949, *Official*

1 "Arholma" Class

LANDSORT

Displacement:	450 tons *standard* (500 tons *full load*)
Dimensions:	178¾ (*w.l.*), 186 (*o.a.*) × 24¾ × 7 (*max.*) feet
Guns:	2—4·1 inch, 2—25 mm. AA., 2 M.G.
A/S weapons:	2 D.C.T.
Mines:	Fitted for minelaying
Machinery:	De Laval geared turbines. S.H.P.: 3,200 = 17 kts.
Boilers:	2 Penhoët
Oil fuel:	60 tons
Complement:	37

Notes

Built at Karlskronä Dockyard. Launched on 26 Nov. 1937. Fitted for minelaying. Pennant No. 54.

Recent Disposals

Of the "Bredskar" class, the *Ven* was scrapped in 1960 it is officially stated.
Of the "Arholma" class, the *Arholma* was scrapped in 1959.
Of the four old minesweepers of the "Jägaren" class, the *Snapphanen* was transferred to the new Guatemalan Navy in 1959, and the *Jägaren*, *Kaparen* and *Vaktaren* were scrapped, it was officially stated, in 1958.

STAFF SHIP (*Stabsfartyg*)



MARIEHOLM (after conversion with helicopter platform) — 1959, *Photo A. Kull*

MARIEHOLM

Displacement:	1,445 tons *standard*
Dimensions:	210 × 32½ × 14 feet
Guns:	2 M.G.
Machinery:	Speed: 12 kts.

Notes

Former passenger ship Completed in 1934 Converted during the Second World War to serve as a Base Communication Centre for the Commander-in-Chief of the Active Fleet Recently used as a Staff Ship for the Commander-in-Chief in winter time, flying his flag The ship had her mainmast removed and a helicopter platform installed aft in 1959 for employment as flagship of the Active Fleet (the "Coast Fleet"). The 40 mm. Bofors on the forecastle has been landed for the time being.

COASTAL MINESWEEPERS



ARKÖ — *1959, Royal Swedish Navy, Official*

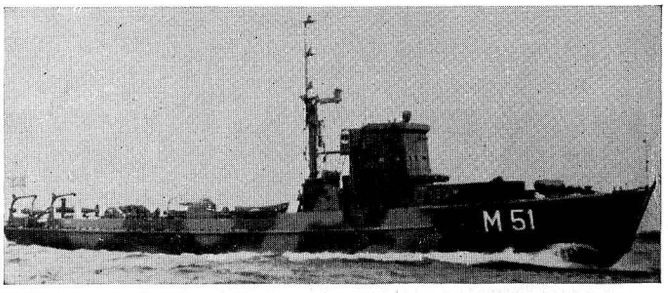
12 "Arkö" Class

ARKÖ (M 57)
ASPÖ (M 63)
BLIDÖ (M 68)
HASSLÖ (M 64)
IGGÖ (M 60)
KARLSÖ (M 59)
NÄMDÖ (M 67)
SKAFTÖ (M 62)
SPÅRÖ (M 58)
STYRSÖ (M 61)
VÅLLÖ (M 66)
VINÖ (M 65)

Displacement:	300 tons *standard*
Dimensions:	131 (*pp.*), 144½ (*o.a.*) × 23 × 8 feet
Guns:	2—40 mm. AA.
Machinery:	Mercedes-Benz diesels. 2 shafts. B.H.P.: 2,000 = 14·5 kts.

Notes

Of wooden construction. Basically similar to "Hano" class below. *Arkö* was launched on 21 Jan. 1957. *Arkö*, *Karlsö* and *Sparö* were completed in 1957, *Iggo* in 1950, *Skaftö* in 1961, *Aspö*, *Haaslö*, *Skaftö* and *Styrsö* in 1962. M 66, M 67 and M 68 and six more are in the new construction programme.



HANÖ — *1954, Royal Swedish Navy, Official*

6 "Hanö" Class

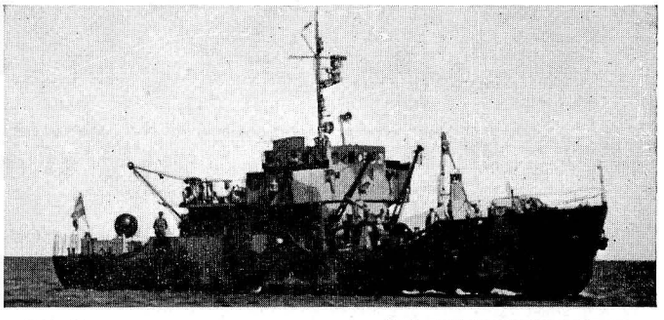
HANÖ (M 51)
ORNÖ (M 55)
STURKÖ (M 54)
TÄRNÖ (M 52)
TJURKÖ (M 53)
UTÖ (M 56)

Displacement:	270 tons *standard*
Dimensions:	131¼ × 23 × 8 feet
Guns:	2—40 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 2,400 = 14·5 kts.

Notes

All the minesweepers of this class were built at Karlskrona and launched in 1953-54.

MINING TENDERS (*Minutläggare*)



MUL 12 — *1956, Royal Swedish Navy, Official*

MUL 12 (1952)
MUL 13 (1952)
MUL 14 (1953)
MUL 15 (1953)
MUL 16 (1956)
MUL 17 (1953)
MUL 18 (1956)
MUL 19 (1956)

Displacement:	245 tons *standard*
Dimensions:	102½ × 25 × 10½ feet
Guns:	1—40 mm.
Machinery:	1 Diesel-electric B.H.P.: 360 = 10·5 kts.

Notes

Launch dates above. Completed in 1957. All of similar appearance to *MUL* 12.

MUL 11 (1946)

Displacement:	175 tons *standard*
Dimensions:	98¾ × 23⅜ × 11 feet
Guns:	2—20 mm.
Machinery:	2 diesels Speed: 10 kts.

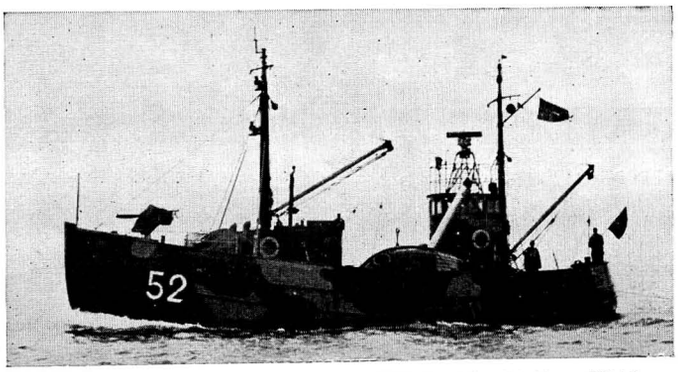
MUL 10 (1939)

Displacement:	158 tons *standard*
Dimensions:	90 × 18⅘ × 7½ feet
Guns:	2 M.G.
Machinery:	Diesel. Speed: 9 5 kts.

Notes

Launch dates above. Manned by Coastal Artillery personnel. *MUL* 7 was discarded in 1954. *MUL* 8 was discarded in 1955. *MUL* 3 and *MUL* 9 were discarded in 1956.

INSHORE MINESWEEPERS



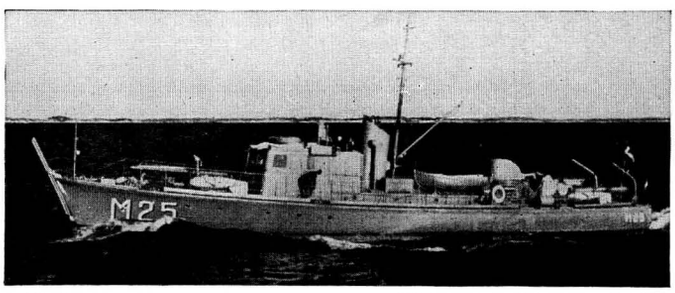
TJÖRN 1957, *Royal Swedish Navy Official*

6 "Orust" Class

BLACKAN (M 44) **GALTEN** (M 46) **ORUST** (M 41)
DÄMMAN (M 45) **HISINGEN** (M 43) **TJÖRN** (M 42)

Displacement: *Orust, Tjörn:* 110 tons *standard*, other four 140 tons
Dimensions: *Orust, Tjörn:* 62½×19⅔×4½ feet; other four: 76⅛×21×4⅔ feet
Guns: *Orust, Tjörn:* 1—20 mm. AA., other four 1—40 mm. AA.
Machinery: 2 diesels. B.H.P.: 600=9 kts.

Notes
Orust and *Tjörn* were launched in 1948. Of the fishing cutter type. *Blackan, Dämman, Galten* and *Hisingen* were launched in 1957. Three more are under construction (authorised Apr. 1962).



M 25 1953, *Royal Swedish Navy, Official*

10 Large Motor Launch Type

M 15 **M 19** **M 21** **M 23** **M 25**
M 16 **M 20** **M 22** **M 24** **M 26**

Displacement: 70 tons *standard*
Dimensions: 85½×16½×4½ feet
Guns: 1—20 mm.
Machinery: Diesel. B.H.P.: 600=13 kts.

Notes
All launched in 1941. Inshore minesweepers of the large motor launch type. M 17 and M 18 of this type were rerated as tenders and renamed *Lowman* and *Sporen* respectively, see later page.

Recent Disposals
Of the inshore minesweepers of the medium motor launch type, M 1 and M 2 were scrapped in 1953, M 3, M 4, M 5 and M 6 were converted into inshore surveying vessels (see later page), and M 7, M 8, M 9 M 10, M 11, M 12, M 13 and M 14 were stricken in 1960 (M 9 and M 10 not before 1 Oct.). although some may also be taken over as surveying vessels.

SALVAGE VESSELS (*Bärgningsfartyg*)

New Construction

BELOS

Displacement: 1,000 tons *standard*
Dimensions: 204×27×12 feet
Aircraft: 1 helicopter
Machinery: Diesel. 2 shafts. B.H.P.: 1,200=13 kts.

Notes
A new salvage vessel built to succeed and take the name of the old *Belos*. Launched in 1961. Equipped with a decompression chamber.

BELOS

Displacement: 755 tons
Dimensions: 167¾×26×13½ feet
Guns: 1—20 mm. AA.
Machinery: Compound. I.H P.: 890=11 kts.

Notes
Launched in 1885. Acquired in 1941. For Diving and Submarine Rescue. Equipment includes diving chamber and apparatus for raising sunken submarines. Photograph in the 1957-58 to 1961-62 editions.

PATROL VESSELS (Trawler Type)

2 "Granat" Class

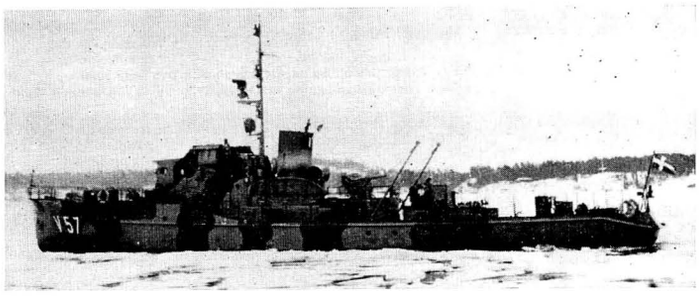
GRANAT **HARPUN**

Displacement: 400 tons *standard*
Dimensions: 121½×23×14 feet
Guns: 1—57 mm.
Machinery: Triple expansion. 1 shaft. I.H.P.: 750=11 kts.

Notes
Coast artillery patrol vessels. Launched in 1925. Both vessels are converted Norwegian trawlers.

Recent Disposals
The coast artillery patrol vessels *Krut* and *Kanon*, converted Norwegian trawlers, were sold out of the service in 1959.

PATROL BOATS (*Vedettbåtar*)



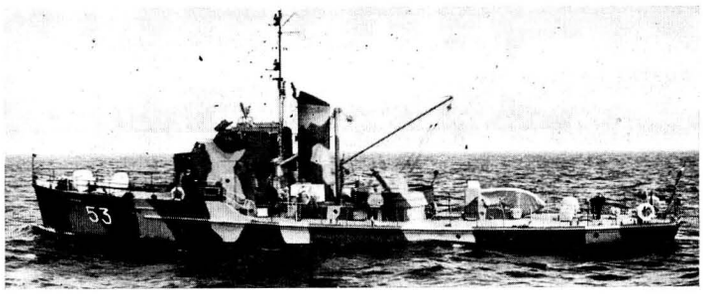
V 57 1962, *A. Kull*

1 Diesel "V" Class

V 57

Displacement: 125 tons *standard*
Dimensions: 98 (*pp.*), 105 (*o.a.*)× 17½×7½ feet
Guns: 2—20 mm. AA
Machinery: Diesel. B.H.P.: 500=13.5 kts.
Complement: 12

Notes
Built at Stockholm. Launched in 1953. Fitted for minelaying. Manned by the Coast Artillery.



V 53 1962, *Royal Swedish Navy, Official*

6 Steam "V" Class

V 51 (1944) **V 53** (4 Dec. 1944) **V 55** (19 Sep. 1944)
V 52 (4 Oct. 1945) **V 54** (4 Oct. 1945) **V 56** (2 Aug. 1945)

Displacement: 125 tons *standard*
Dimensions: 98×17½×7½ to 7¾ feet
Guns: 1—20 mm. 1 M.G.
Machinery: Triple expansion. 1 shaft. I.H.P.: 400=12 kts.
Boiler: 1 Watertube (coal-burning)

Notes
Launch dates above. All the above boats are manned by the Coast Artillery. The old ex-torpedo boats V 5, V 8 and V 14 were discarded in 1957.

5 SVK Type Launches

SVK 1 **SVK 2** **SVK 3** **SVK 4** **SVK 5**

Displacement: 19 tons
Dimensions: 55¾×12×4 feet
Guns: 1—20 mm. AA.
Speed: 11 kts.

Notes
Patrol launches of the Sjövärnskarens type. All launched in 1944. Sjövärnskaren= R.N.V.R. *Tumlaren*, a small fishing vutter, also belongs to the SVK.

TRAINING SHIPS (*Skonerter*)

FALKEN (12 June 1947) **GLADAN** (14 Nov. 1946)

Displacement: 220 tons *standard*
Dimensions: 93 (*w.l.*), 129½ (*o.a.*)×23½×13½ feet
Machinery: Auxiliary diesel of 50 B.H.P

Notes
Sail training ships. Schooners. Launch dates above. Sail area 5,511 square feet.

WATER CARRIERS

FRYKEN

Displacement: 307 tons *standard*
Dimensions: 105×19×9 feet
Machinery: Speed=10 kts.

Notes
A new construction water carrier. Launched in 1959 and completed in 1960. Pennant No. 263.

UNDEN

Displacement: 500 tons
Dimensions: 121½×23½× 14 feet
Speed: 10 kts.

Notes
Launched in 1946. Pennant No. 268 painted on the bows.

GÄLNAN

Displacement: 100 tons
Dimensions: 95×19×9 feet
Machinery: Speed=8 kts.

Notes
Launched in 1942.

SUPPLY SHIP

FREJA

Displacement: 300 tons *standard* (450 tons *full load*)
Dimensions: 160¾×27½×10 feet
Machinery: Speed: 11 kts.

Notes
Built by Kroger, Rendsburg, and launched in 1953. Employed as a provision ship. Pennant No. 270.

SURVEYING VESSELS (*Sjömätningsfartyg*)

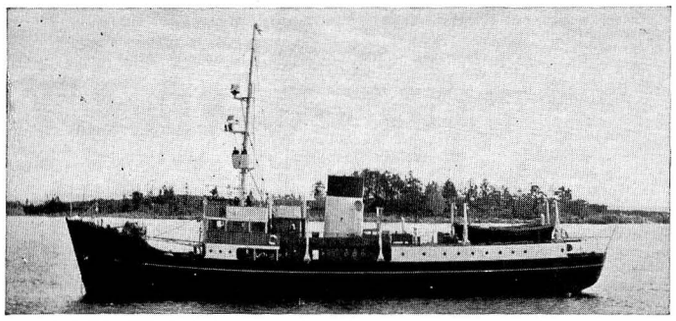
1 New Construction

Displacement: 350 tons *standard* (officially revised figure)

Notes
A new surveying vessel is under construction to replace *Svalan* in the near future.

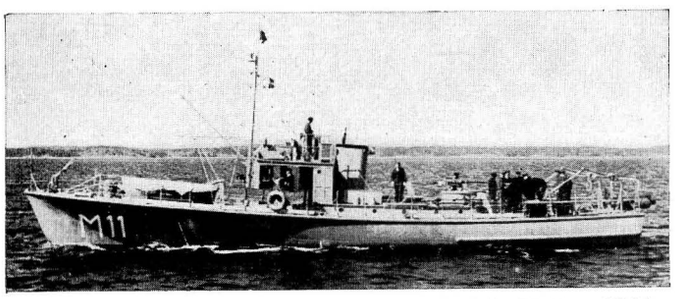
RAN
Displacement: 285 tons *standard*
Dimensions: 98½ × 23 × 8½ feet

Notes
Ran was launched in 1945.



GUSTAF AF KLINT — 1953, *Royal Swedish Navy, Official*

GUSTAF AF KLINT (1941)
Displacement: 650 tons *standard*
Dimensions: 154 × 28½ × 15½ feet
Machinery: Diesel. Speed = 10 kts.



M 11 — 1953, *Royal Swedish Navy, Official*

6 Medium Motor Launch Type

ANDEN (ex-M9) **MÅSEN** (ex-*M* 3) **SVÄRTAN** (ex-*M* 5) **TÄRNAN** (ex-*M* 4)
GRISSLAN (ex-*M* 6) **VIGGEN** (ex-M10)
Displacement: 50 tons *standard*
Dimensions: 78¾ × 16½ × 4½ feet
Machinery: Diesel. B.H.P.: 400 = 13 kts.

Notes
Former inshore minesweepers of the motor launch type, launched in 1940 and subsequently converted into surveying vessels.

KOMPASS (1938)
Displacement: 50 tons *standard*
Dimensions: 55¾ × 17¾ — feet
Machinery: Speed: 7·5 kts.

JOHAN NORDENANCKAR (1924)
Displacement: 260 tons *standard*
Dimensions: 98½ × 22½ × 8¼ feet
Machinery: Speed: 8 kts.

PETTER GEDDA (1924)
Displacement: 135 tons *standard*
Dimensions: 82 × 18 × 7 feet
Machinery: Speed: 6 kts.

EJDERN (1916)
Displacement: 95 tons *standard*
Dimensions: 78¾ × 15¾ × 17½ feet
Machinery: Speed: 8 kts.

NILS STRÖMCRONA (1894)
Displacement: 140 tons *standard*
Dimensions: 90 × 17 × 8½ feet
Guns: None in peacetime
Machinery: Speed: 9 kts.

General Notes
Launch date in parentheses above. The older surveying vessels will eventually be replaced.

Recent Disposal
The very old surveying vessel *Svalan*, launched in 1881, see particulars in the 1960-61 and earlier editions, is being scrapped and replaced by a new surveying vessel in the near future. The very old surveying vessel *Svensksund*, launched in 1891, was officially deleted from the list in 1962.

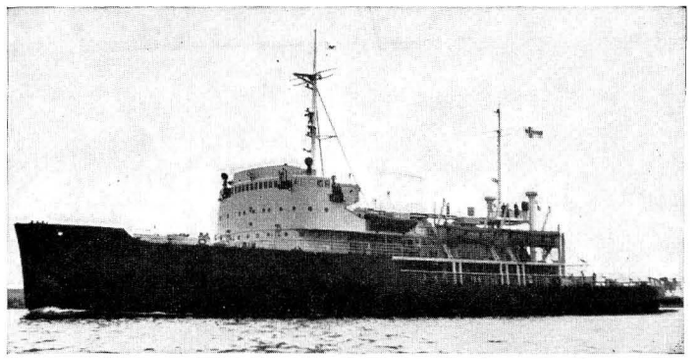
ICEBREAKERS (*Isbrytarfartyg*)

1 New Construction

Displacement: 5,000 tons
Dimensions: 277 (*o.a.*) × 67¼ × 20½ feet
Machinery: H.P.: 12,000 = 18 kts.

Notes
Under construction at Sandviken, Hensingfors. To be completed in 1963.

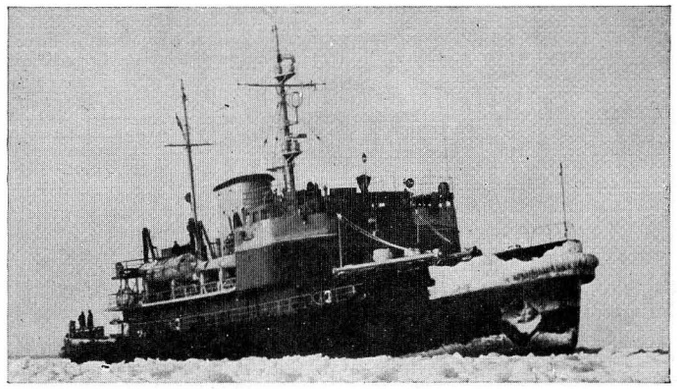
Icebreakers—*continued*



ODEN — 1958, *Royal Swedish Navy, Official*

ODEN
Displacement: 5,260 tons *standard*
Dimensions: 256 (*pp.*), 273½ (*o.a.*) × 63¾ × 22¾ feet
Machinery: Diesel-electric. 4 shafts. B.H.P.: 10,500 = 17 kts.
Oil fuel: 740 tons
Complement: 75

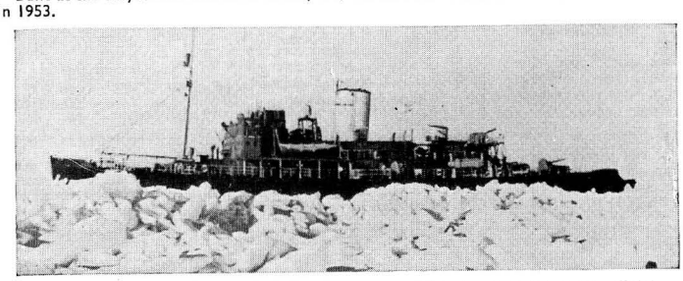
Notes
Similar to Finnish *Vaima* and three Russian icebreakers. Four screws, two forward, two aft. Built at Sandviken, Helsingfors. Launched on 16 Oct. 1956. Completed in 1958. Another icebreaker is planned to replace *Atle*.



THULE — *1955, Royal Swedish Navy, Official*

THULE
Displacement: 2,200 tons *standard*
Dimensions: 187 (*w.l.*), 204¼ (*o.a.*) × 50 × 19 (max.) feet.
Machinery: Diesel-electric. 3 shafts (1 forward). B.H.P.: 4,800 = 16 kts.
Complement: 43

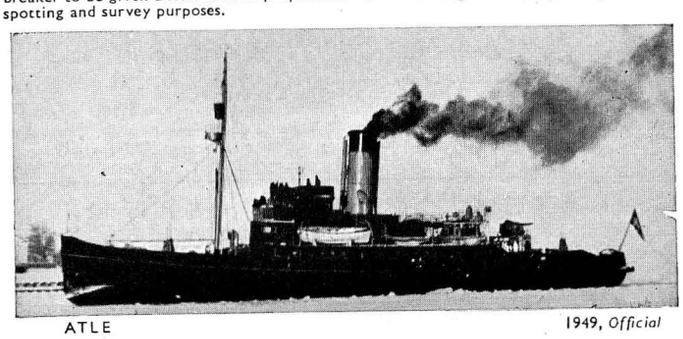
Notes
Built at the Royal Swedish Naval Dockyard, Karlskrona. Launched in 1951. Completed in 1953.



YMER — 1953, *Royal Swedish Navy, Official*

YMER
Displacement: 4,330 tons *standard*
Dimensions: 240 (*w.l.*), 258 (*o.a.*) × 63⅛ × 22½ feet
Guns: 4—3 inch AA., 1—40 mm. AA., 4—25 mm. AA.
Machinery: 6 Atlas diesels driving electric generators. H.P.: 9,000 = 16 kts.
Complement: 44

Notes
Built by Kockums M.V. A/B., Malmö. Launched in 1933. *Ymer* was the first large icebreaker to be given Diesel-electric propulsion. She was designed to carry a seaplane for ice spotting and survey purposes.



ATLE — 1949, *Official*

ATLE
Displacement: 1,750 tons *standard* (2,740 tons *full load*)
Dimensions: 194½ (*w.l.*), 207 (*o.a.*) × 55¾ × 22½ feet
Guns: 4—57 mm. AA., 4 M.G.
Machinery: H.P.: 4,000 = 15 kts.
Complement: 44

Notes
Launched in 1926. This icebreaker will eventually be replaced by a new icebreaker.

LANDING CRAFT

1 New Construction

GRIM

Displacement: 380 tons
Dimensions: 116½ × 28 × 8½ feet
Machinery: Speed = 12 kts.

Notes
Landing craft under construction of an improved " Ane " class design. Launched in 1961.



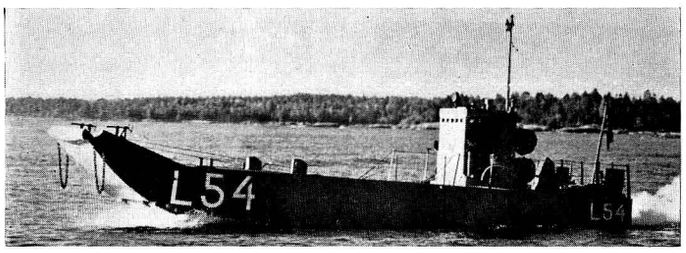
SKAGUL 1962, *Royal Swedish Navy, Official*

2 " Skagul " Class

SKAGUL **SLEIPNER**

Displacement: 355 tons *standard*
Dimensions: 118 × 28 × 8½ feet
Machinery: Speed = 12 kts.

Notes
Sleipner was launched in 1959 and completed in 1960. *Skagul* was launched and completed in 1960.



L 54 1959, *Royal Swedish Navy, Official*

L 51 **L 52** **L 53** **L 54** **L 55**

Displacement: 37 tons *standard*
Dimensions: 5 ¾ × 16 × 3¼ feet
Machinery: Speed = 8 kts

Notes
Landing craft of general utility type. Launched in 1948. Sister craft L 53 and L 54 were laid up in 1960.

ANE **BALDER** **LOKE** **RING**

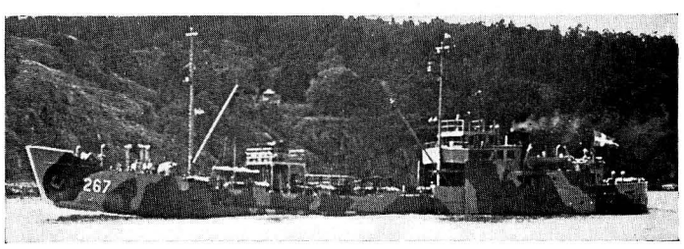
Displacement: 135 tons (*Loke* 145 tons)
Dimensions: 91¾ × 26¼ × 5 feet (*Loke* 6 feet)
Machinery: Speed = 8.5 kts. (*Loke* 9·2 kts.)

Notes
Artillery transport craft. Launched in 1943-45.

OILERS (*Tankfartyg*)

TANKAREN (ex-*Lister*, 1941)

Displacement: 500 tons *standard*
Measurement: 300 tons *deadweight*
Dimensions: 118 × 22 × 10 feet
Machinery: Speed: 10 kts.



OLJAREN 1959, *Ossi Janson*

OLJAREN (ex-*Martha*, 1939)

Displacement: 1,100 tons *standard* (695 tons cargo capacity)
Dimensions: 179 × 28 × 11 feet
Guns: 2—25 mm. AA.
Machinery: Speed: 9 kts.

ELDAREN (ex-*Muron*, 1938)

Displacement: 875 tons *standard* (535 tons cargo capacity)
Dimensions: 169 × 25¾ × 10 feet
Guns: 2—25 mm. AA.
Machinery: Speed: 9·5 kts.

Notes
Launch dates in parentheses above. Pennant Nos. 269, 267 and 266, respectively.

BRÄNNAREN

Displacement: 1,100 tons *standard* (610 tons cargo capacity)
Dimensions: 165 (*pp.*), 173 (*o.a.*) × 29 × 12 feet
Guns: 2—25 mm. AA.
Machinery: Atlas diesels. H.P.: 500 = 10 kts.

Notes
Built by Kockums Mekaniska Verstads Aktiebolag, Malmö. Launched in 1933. Pen. No. 265.

TENDERS

ACHILLES

Displacement: 450 tons
Dimensions: 108¼ × 28⅝ × 12 feet

Notes
New tender under construction for completion in the near future.

HERMES

Displacement: 185 tons
Dimensions: 75½ × 22½ × 13 feet
Machinery: Speed = 11·5 kts.

Notes
Launched in 1958. Pennant No. 318.

HÄGERN **PELIKANEN**

Displacement: 50 tons *standard*
Dimensions: 92 × 16½ × 6 feet

Notes
Hägern was launched in 1951. Pennant No. 274. *Pelikanen*, under construction, is similar to *Hägern*.

Recent Disposals
The tenders *Starkodder* (ex-*Graham*) and *Styrbjörn* (ex-*Klo*), former whale catchers, built in Norway, were still in existence in 1961. The tender *Orion* was stricken in 1960.

LOMMEN (ex-*M* 17) **SPOVEN** (ex-*M* 18)

Displacement: 70 tons *standard*
Dimensions: 85½ × 16½ × 4½ feet
Machinery: Diesel. B.H.P.: 600 = 13 kts.

Notes
Former inshore minesweepers of the large motor launch type. Both launched in 1941.

SVEPAREN

Displacement: 185 tons *standard*
Dimensions: 85½ × 23 × 10 feet
Guns: 1—25 mm. 1 M.G.
Machinery: Triple expansion. I.H.P.: 400 = 10 kts.
Complement: 18

Notes
Launched in 1917. Pennant No. 253 painted on bows. Tug type originally used as minesweeper. Now supply tender. *Sprangaren* was discarded in 1961.

SYRIA

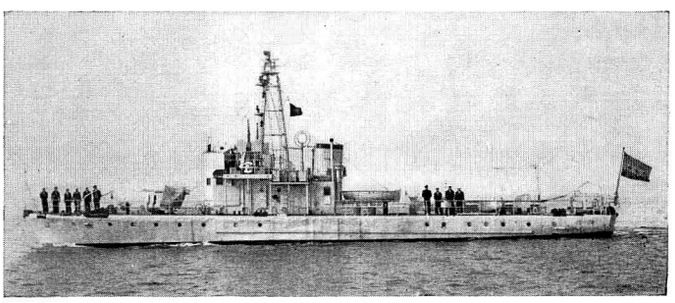
MINESWEEPERS

2 Ex-U.S.S.R. " T 43 " Type

Displacement: 410 tons *standard* (530 tons *full load*)
Dimensions: 200 × 27¼ × 9 feet
Guns: 4—37 mm. AA., 8—13 mm. AA.
Machinery: Diesel motors. 2 shafts. Speed = 18 kts.

Notes
Reported in 1962 to have been transferred from the Soviet Navy to the Syrian Navy.

PATROL VESSELS



"Ch" Type 1957, *M. Henri Le Masson*

3 Ex-French " Ch " Type

AKABA BEN NASEH (ex-*Ch* 10) **TAREK BEN SAID** (ex-*Ch* 13)
AL HARISSI (ex-*Ch* 19)

Displacement: 107 tons *standard* (131 tons *full load*)
Dimensions: 116½ (*pp.*), 121¾ (*o.a.*) × 17½ × 6½ feet
Guns: 1—3 inch; 2—20 mm. AA.
A/S weapons: Depth charges
Machinery: MAN diesels. 2 shafts. B.H.P.: 1,130 = 16 kts.
Oil fuel: 5 tons
Radius: 1,200 miles at 8 kts.; 680 miles at 13 kts.
Complement: 28

Notes
These former French submarine chasers form the nucleus of the newly created Syrian Navy.

Name	*Builders*	*Laid down*	*Launched*	*Completed*
Akaba Ben Naseh	A.C. de France	1938	Jan. 1940	Apr. 1940
Al Harissi	A.C. Seine Maut	1938	1939	1940
Tarek Ben Said	A.C. Seine Maut	1938	1939	1940

FAST PATROL BOATS

15 Ex-U.S.S.R. Type

Displacement: 50 tons
Tubes: 2—21 inch
Machinery: Speed = 40 kts.

Notes
Five motor torpedo boats were transferred from Russia at Latakia on 7 Feb. 1957, and others subsequently.

New Construction
Syria is planning the construction of patrol vessels of 150 tons displacement with a speed of 27 kts.; motor torpedo boats; and seaward defence boats of 60 tons with a speed of 23 kts.

Acquisition Programme
Syria expects to receive from Russia two small submarines of the " M " type and six motor torpedo boats under a new agreement. Several small craft have been received from France.

TAIWAN (FORMOSA)

NATIONAL REPUBLIC OF CHINA

Administration

Commander-in-Chief Chinese Nationalist Navy: Admiral Yue-si Ni

Fleet Commander: Vice-Admiral Tsui Chih-Tao.

Ships

Chinese (Taiwan) ships' names are prefaced by "R.C.N." (Republic of China Navy). Chinese (Taiwan) naval vessels are assigned a "block" number which is painted on the bow and serves as a means of identification and classification.

5	Destroyers	48	Coastal Craft
15	Frigates	1	Gunboat
3	Escort Vessels	7	Transports
12	Fleet Minesweepers	7	Oilers
1	Minelayer	30	L.S.T.s.
27	Submarine Chasers	16	L.S.M.s.
3.	Motor Gunboats	9	L.C.I.L.s.
6	Coastal Minesweepers	17	L.C.U.s.

Mercantile Marine

Lloyd's Register of Shipping:
87 vessels of 372,898 tons *gross*

Personnel

1962: Naval, 35,000 officers and ratings; Marine, 27,000 officers and men.

The Chinese (Taiwan) Navy is undergoing training with the aid of officers and men of the United States Military Assistance Advisory Group on Formosa.

A small detachment of United States Marine Corps advisers trains Chinese (Taiwan) marines in amphibious operations.

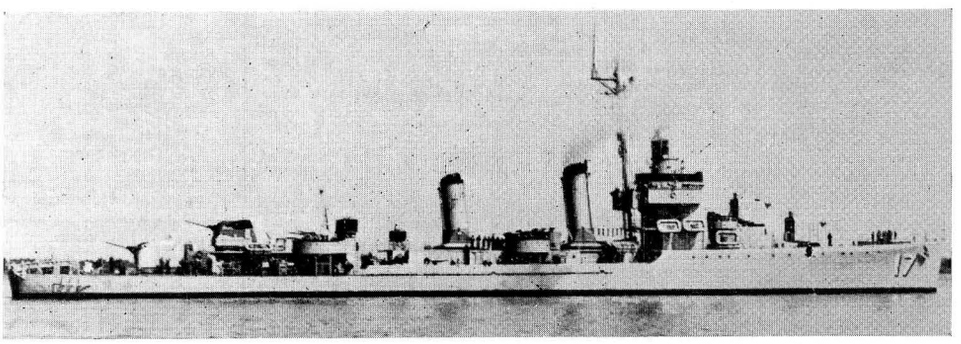
DESTROYERS

2 Ex-U.S. "Gleaves" Class

HSUEN YANG (ex-U.S.S. *Rodman*, DD 456, ex-DMS 21)
NAN YANG (ex-U.S.S. *Plunkett*, DD 431)

Name:	*Hsuen Yang*	*Nan Yang*
No.:	16	17
Builders:	Federal S.B. & D.D. Co.	Federal S.B. & D.D. Co.
Laid down:	2 Dec. 1940	1 Mar. 1939
Launched:	26 Sep. 1941	9 Mar. 1940
Completed:	27 Jan. 1942	16 July 1940

Displacement: *Hsuen Yang* 1,630 tons, *Nan Yang* 1,700 tons *standard* (2,575 tons *full load*)
Dimensions: 341 (*w.l.*), 348¼ (*o.a.*) × 36½ × 17¾ (*max.*) feet
Guns: *Nan Yang:* 4—5 inch, 38 cal.; 4—40 mm. AA.; 4—20 mm. AA.
Hsuen Yang: 3—5 inch, 38 cal.; 4—40 mm. AA.; 4—20 mm. AA.
Tubes: 5—21 inch (in *Nan Yang*)
Machinery: General Electric geared turbines. 2 shafts. S.H.P.: 50,000 = 37·4 kts.
Boilers: 4 Babcock & Wilcox
Oil fuel: 600 tons
Radius: 5,000 miles at 15 kts.
Complement: 250



NAN YANG — 1962, *courtesy Mr. W. H. Davis*

General Notes
Transferred on loan from the United States Navy to the Chinese (Taiwan) Navy at Charleston, South Carolina, *Rodman* on 28 July 1955 and *Plunkett* on 16 Feb. 1959 (sailed for Taiwan in May 1959). The loan of *Hsuen Yang* (ex-*Rodman*) was extended for five more years by the U.S.A. in 1960.

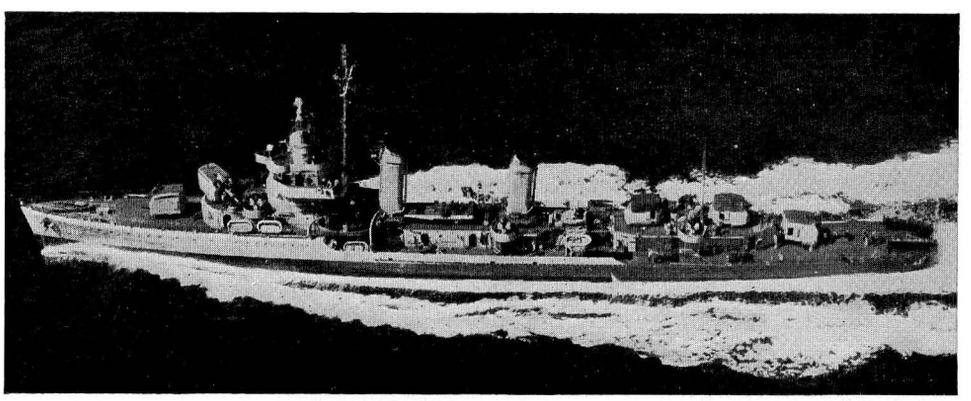
Photograph Notes
An official photograph of the destroyer *Hsuen Yang*, former American destroyer minesweeper, afterwards re-classified as a destroyer, a port quarter oblique aerial view, appears in the 1956-57 to 1961-62 editions, showing different main armament.

2 Ex-U.S. "Mayo" Class

HAN YANG (ex-U.S.S. *Hilary P. Jones*, DD 427)
LO YANG (ex-U.S.S. *Benson*, DD 421)

Name:	*Han Yang*	*Lo Yang*
No.:	15	14
Builders:	Philadelphia Navy Yard	Bethlehem (Quincy)
Laid down:	16 Nov. 1938	16 May 1938
Launched:	14 Dec. 1939	15 Nov. 1939
Completed:	7 Sep. 1940	25 July 1940

Displacement: 1,620 tons *standard* (2,450 tons *full load*)
Dimensions: 340 (*w.l.*), 348¼ (*o.a.*) × 35½ × 18 (*max.*) feet
Guns: 4—5 inch 38 cal.; 4—40 mm. A.A, 6—20 mm. AA.
A/S weapons: D.C. mortar and D.C. throwers
Machinery: 2 sets General Electric geared turbines. 2 shafts. S.H.P.: 50,000 = 36·5 kts. (designed speed)
Boilers: 4 high pressure
Oil fuel: 600 tons
Radius: 5,000 miles at 15 kts.
Complement: 250



HAN YANG — *Added 1957, Official.*

Notes
Both presented by U.S.A. and transferred to China (Taiwan) at Charleston, South Carolina, on 26 Feb. 1954.

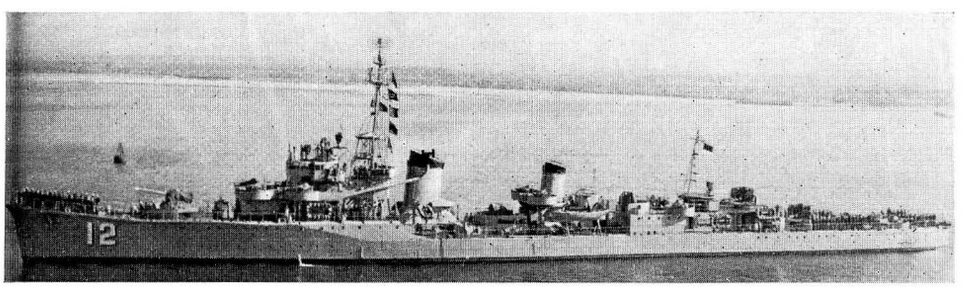
Photograph Notes
A photograph of *Lo Yang* (ex-*Benson*) appears in the 1954-55 to 1957-58 editions.

1 Ex-Japanese "Kagero" Type

TAN YANG (ex-*Yukikaze*)

Displacement: 2,050 tons *standard* (2,490 tons *full load*)
Dimensions: 388 (*o.a.*) × 35½ × 12½ feet
Guns: 3—5 inch, 38 cal. d.p. in open mounts, in "A," "X" and "Y" positions; 2—3 inch d.p. in open mounts, one on deck in "P" position, one on a deckhouse in "Q" position (as re-armed with U.S. guns); 10—40 mm. AA. distributed fore and aft
A/S weapons: D.C. racks
Machinery: 2 geared turbines. 2 shafts. S.H.P.: 52,000 = 35 kts. (designed). See *Notes*
Boilers: 3 Kampon
Radius: 5,000 miles at 18 kts.
Complement: 290

Notes
Built at Sasebo, Japan. Launched in 1939, completed in 1940 She is now the largest combatant unit in the Taiwan Navy. Ship underwent an extensive overhaul in 1951-52. During trials in Feb. 1953, 27·5 kts. was reached, and 26 kts. maintained for an hour. She was rearmed in 1959. No. 12.



TAN YANG — 1962, *Official*

Disposal Notes
The destroyer leader *Fen Yang* (ex-Japanese *Yukikaze*) unarmed and in a very bad state, able neither to steam nor steer, and laid up and non-operational for some years, is reported to have been discarded.

FRIGATES

1 Ex-Japanese "Hagi" Type

HSIN YANG (ex-*Hatsume*)

Displacement:	1,050 tons *standard* (1,580 tons *full load*)
Dimensions:	302½ (*pp.*), 321½ (*w.l.*), 328 (*o.a.*) × 30⅔ × 11 feet
Guns:	2—5 inch, 38 cal. d.p. in open mounts in "A" and "Y" positions; 7—40 mm. AA.; 6—20 mm. AA.
Machinery:	2 geared turbines. 2 shafts. S.H.P.: 19,000=27·8 kts.
Boilers:	2 Kampon
Complement:	210

Notes
Former Japanese. Modified *Matsu* class. Launched in 1945. Formerly numbered 15, she was re-numbered 82 in 1955. Of three sister ships, it is reported that *Hen Yang* is almost in hulk condition, *Hui Yang* is aground and beyond repair, and *Hua Yang* is almost in hulk condition and beyond economical repair.



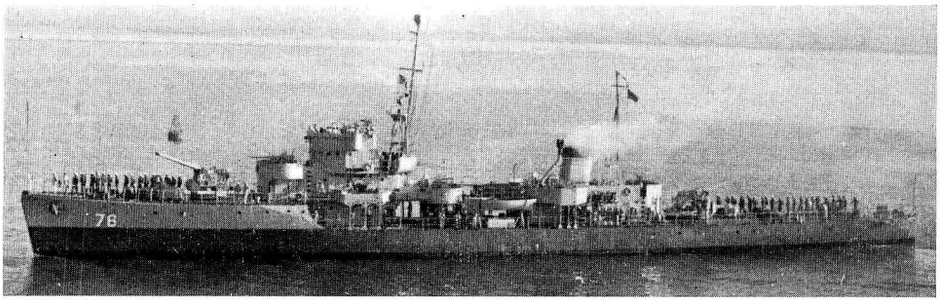
HSIN YANG 1962, *Official*

1 Ex-Japanese "Mikura" Type

CHENG AN (ex-*Hsueh Feng*, ex-*Wei Tai*, ex-*Yashiro*)

Displacement:	940 tons *standard* (1,020 tons *full load*)
Dimensions:	258½ (*o.a.*) × 30 × 10 feet
Guns:	2—5 inch, 5—40 mm. AA.; 4—20 mm. AA.
A/S weapons:	26 D.C.
Machinery:	2 diesels. 2 shafts. B.H.P.: 4,200=19·5 kts.
Radius:	8,000 miles at 16 kts.
Complement:	150

Notes
Ex-Japanese Type A or "Mikura" class. Built by Hitachi (Sakuraima Works). Laid down on 8 Nov. 1943. Launched on 16 Feb. 1944. Completed on 10 May 1945. No. 76.



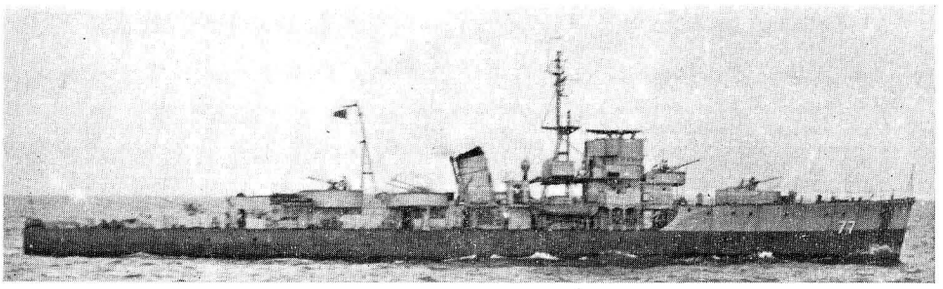
CHENG AN 1962, *Official*

1 Ex-Japanese "Etorofu" Type

LIN AN (ex-*Tsushima*)

Displacement:	960 tons *standard* (1,020 tons *full load*)
Dimensions:	255 (*o.a.*) × 30 × 10 feet
Guns:	2—3 inch, 50 cal.; 4—40 mm. AA.; 4—20 mm.
A/S weapons:	26 D.C.
Machinery:	2 diesels. 2 shafts. B.H.P.: 4,200=19·7 kts.
Radius:	8,000 miles at 16 kts.
Complement:	147

Notes
Ex-Japanese Type A or "Etorofu" class. Built at Tsurumi. Laid down on 20 June 1942. Launched on 20 Mar. 1943. Completed on 30 July 1943. Fitted for minelaying. Pennant No. 77.



LIN AN 1962, *Official*

4 Ex-U.S. "Bostwick" Type

TAI CHAO (ex-U.S.S. *Carter*, DE 112)
TAI HO (ex-U.S.S. *Thomas*, DE 102)
TAI HU (ex-U.S.S. *Breeman*, DE 104)
TAI TSANG (ex-*Bostwick*, DE 103)

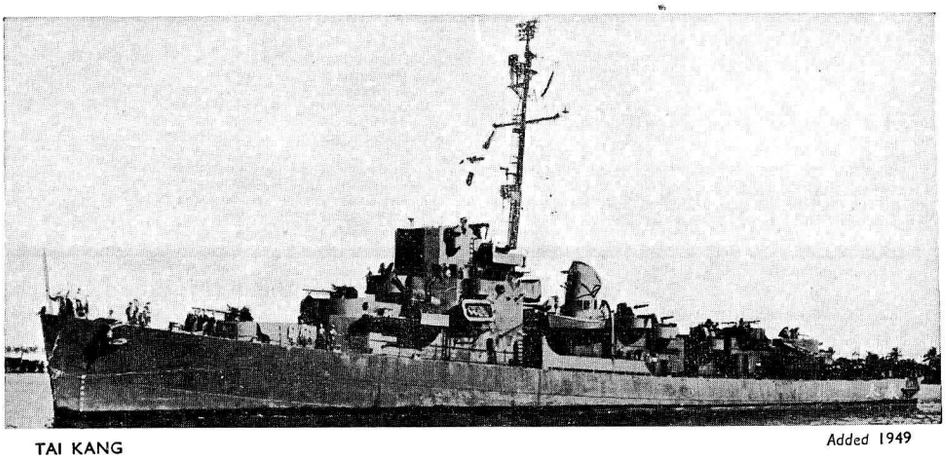
Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅔ × 12 (*max.*) feet
Guns:	4—3 inch, 50 cal. d.p., 3 or 4—40 mm. AA., 9 or 10—20 mm. AA.
A/S weapons:	8 D.C.T.
Tubes:	3—21 inch in triple mounting
Machinery:	Diesel electric. 2 shafts. B.H.P.: 6,000=21 kts. (19 kts. in service)
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	220

Notes
Former United States destroyer escorts. Transferred on 31 Dec. 1948. Two underwent overhaul in Japanese yards, late in 1952.

1 Ex-U.S. "Evarts" Type

TAI KANG (ex-U.S.S. *Wyffels*, DE 6)

Displacement:	1,150 tons *standard* (1,430 tons *full load*)
Dimensions:	283½ (*w.l.*), 289½ (*o.a.*) × 35 × 10⅔ feet
Guns:	3—3 inch, 50 cal. dual purpose, 4—40 mm. AA., 11—20 mm. AA.
A/S weapons:	9 D.C.T.
Machinery:	Diesel with electric drive. 2 shafts. H.P.: 6,000=21·5 kts. (19 kts. sea speed)
Radius:	5,500 miles at 14 kts.
Complement:	120



TAI KANG *Added* 1949

Notes
Former United States destroyer escort. Built at Boston Navy Yard. Presented to China in 1946. Sister ship *Tai Ping* (ex-U.S.S. *Decker*, DE 47), was torpedoed and sunk by Chinese Republican motor torpedo boats off Tachen Islands on 14 Nov. 1954.

Pennant No.	*Name*	*Launched*	*Completed*
26	*Tai Chou*	29 Feb. 1944	2 May 1944
23	*Tai Ho*	31 July 1943	21 Nov. 1943
25	*Tai Hu*	1943	12 Dec. 1943
21	*Tai Kang*	1943	21 Apr. 1943
24	*Tai Tsang*	30 Aug. 1943	21 Dec. 1943

Disposal Notes
The former Japanese very old destroyer escort or frigate *Shen Yang* (ex-*Namikaze*) of the "Akikaze" or Modified "Minekaze" class, reconstructed as a "Kaiten" (Human Torpedo) carrier, but subsequently laid up and non-operational, being almost in hulk condition, is well over age and obsolete, and has been discarded as of no further military value, it is reported (see full particulars and photograph in the 1961-62 and earlier editions).

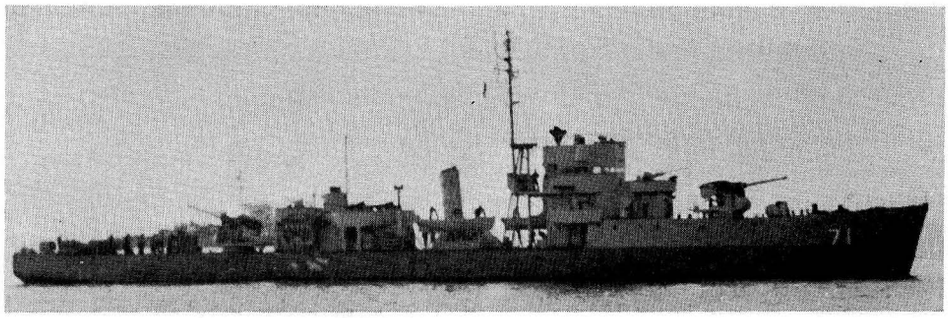
The former old sloop or frigate *Yi Hsien* (ex-*Atada*, ex-*Yat Sen*), latterly employed as a training ship, was officially deleted from the Navy List by the Nationalist Republic of China fleet authorities in May 1962 (see full particulars and photograph in the 1961-62 and earlier editions).

2 Ex-Japanese Turbine "Kaibokan" Type

CHEN AN (ex-Jap. No. 40) **TAI AN** (ex-Jap. No. 104)

Displacement:	740 tons *standard* (900 tons *full load*)
Dimensions:	228 (*o.a.*) × 28¼ × 10 feet
Guns:	2—5 inch, 3—40 mm., 3—20 mm.
Machinery:	Geared turbine. 1 shaft. S.H.P.: 2,500 = 17·5 kts.
Boilers:	2 mixed firing
Radius:	4,500 miles at 14 kts.
Complement:	145

Notes
Ex-Japanese. Type D or "Kaibokan" Class No. 2 Type. Launched in 1944-45. Pennant Nos.: *Che An:* 72, *Tai An:* 71. Rated as gunboats. Of two sister ships, handed over disarmed, *Tsi Nan* and *Tung An* are not operational



TAI AN — 1962, *Official*

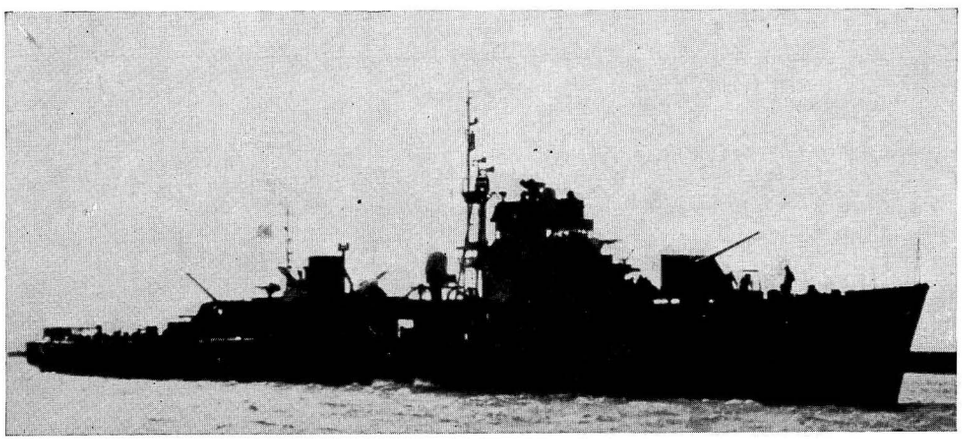
2 Ex-Japanese Diesel "Kaibokan" Type

CHAO AN (ex-Jap. No. 107)
JUI AN (ex-*Swe An*, ex-*Ying Kan*, ex-Jap. No. 67)

Displacement:	745 tons *standard* (810 tons *full load*)
Dimensions:	221½ (*o.a.*) × 28 × 9½ feet
Guns:	*Chao An*, 2—3 inch, 2—40 mm. AA.; *Jui An*, 1—4·7 inch, 1—3 inch, 8 M.G.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,900 = 16·5 kts.
Radius:	6,500 miles at 14 kts.
Complement:	130

Notes
Ex-Japanese, Type C or "Kaibokan" Class No. 1 Type. Launched in 1944. Pennant Nos.: *Chao An:* 74, *Jui An:* 73.

Of two sister ships, *Chang An*, which was never rearmed and was laid up and non-operational, grounded on the Pescadores Islands on 26 Sep. 1954, sustaining extensive damage and flooding, and is now a hulk, and *Tsing Pai* is also a hulk.



CHAO AN — *Added* 1957

1 Ex-Japanese Minelaying Type

YUNG CHING (ex-*Saishu*)

Displacement:	750 tons *standard* (820 tons *full load*)
Dimensions:	231 (*pp.*), 240¾ (*w.l.*), 246 (*o.a.*) × 26 × 8½ feet
Guns:	1—3 inch d.p., 3—40 mm. AA., 5—20 mm. AA.
Mines:	120 capacity
Machinery:	2 diesels. 2 shafts. B.H.P.: 3,600 = 20 kts. (designed speed)
Oil fuel:	70 tons
Radius:	6,000 miles at 10 kts.
Complement:	100

Notes
Built by Sasebo Dockyard in 1941. Japanese prize, acquired in 1947. Formerly rated as a light minelayer. Now rated as DE escort. Pennant No. 70 (Ex-No. 75.)



YUNG CHING — 1962, *Official*

2 Ex-Canadian "Castle" Type

KAO-AN (ex-*Chiu Chin*, ex-*Tillsonburg*, ex-*Pembroke Castle*)
TE-AN (ex-*Hsi Lin*, ex-*Orangeville*, ex-*Hedingham Castle*)

Notes
Originally Canadian "Castle" class corvettes, but subsequently adapted for commercial use. Reconverted from merchant ships and taken over by the Chinese (Taiwan) Navy in June 1951 and rearmed. Ex-Nos. 62 and 61, repectively.

Displacement:	1,100 tons *standard* (1,580 tons *full load*)
Dimensions:	252 (*o.a.*) × 36⅔ × 15¾ (*max.*) feet
Guns:	1—4·7 inch d.p., 1—3 inch, 4—40 mm., 4—20 mm.
Machinery:	Triple expansion. I.H.P.: 2,800 = 16·5 kts.
Boilers:	Two 3-drum type
Oil fuel:	480 tons
Radius:	9,400 miles at 10 kts.
Complement:	100

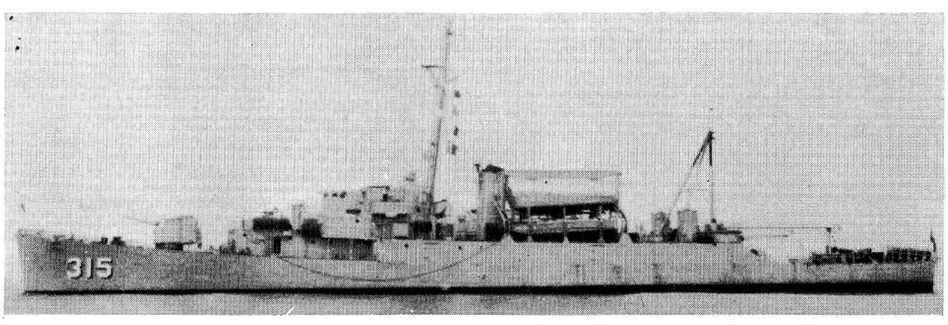
Name:	*Kao-An*	*Te-An*
No.:	80	81
Builders:	Ferguson Bros. Ltd., Glasgow	Henry Robb Ltd., Leith
Laid down:	3 June 1943	23 July 1943
Launched:	12 Feb. 1944	26 Jan. 1944
Completed:	17 July 1944	10 May 1944

FAST TRANSPORT (Modified Destroyer Escort)

TIEN SHAN (ex-U.S.S. *Kleinsmith*, *APD* 134, ex-*DE* 718)

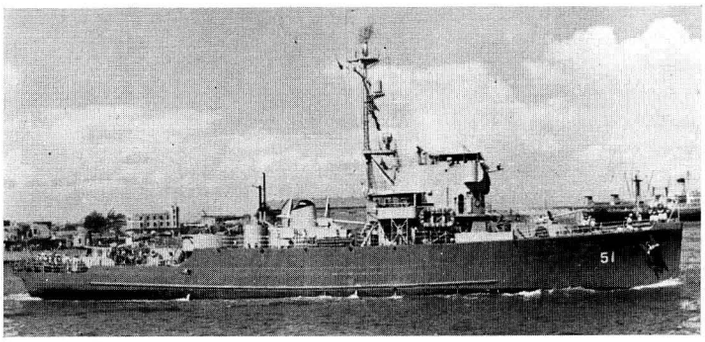
Displacement:	1,400 tons *standard*, 1,650 tons *trials* (2,130 tons *full load*)
Dimensions:	300 (*w.l.*), 306 (*o.a.*) × 37 × 12⅔ (*max.*) feet
Guns:	1—5 inch, 38 cal. d.p., 6—40 mm. AA.
Machinery:	General Electric turbines with electric drive. 2 shafts. S.H.P.: 12,000 = 23·6 kts. (trials)
Boilers:	2 Express
Oil fuel:	350 tons
Radius:	5,500 miles at 15 kts.
Complement:	204 + 162 troops

General Notes
Former destroyer escort converted by the U.S.A. and officially rated as a High Speed Transport. Can carry four LCVP (Landing Craft, Vehicle-Personnel). Transferred from the United States Navy to Nationalist China at Tsoying, Taiwan, on 16 May 1960. The name *Tien Shan* means Heavenly Mountain. Pennant No. 315.



TIEN SHAN — 1962, *Official*

FLEET MINESWEEPERS/GUNBOATS



YUNG CHANG — 1962, *Official*

13 Ex-U.S. *MSF* (ex-*AM*) Type

(7 *rated as Minesweepers*)

47 YUNG CHIA (ex-U.S.S. *Implicit*, *AM* 246, 6 Sep. 1943)
48 YUNG HSIU (ex-U.S.S. *Pinnacle*, *AM* 274, 11 Sep. 1943)
46 YUNG NING (ex-U.S.S. *Magnet*, *AM* 260, 5 June 1943)
43 YUNG SHENG (ex-U.S.S. *Lance*, *AM* 257; 10 Apr. 1943)
49 YUNG SHOU (ex-U.S.S. *Pivot*, *AM* 276, 11 Nov. 1943)
44 YUNG SHUN (ex-U.S.S. *Logic*, *AM* 258, 10 Apr. 1943)
45 YUNG TING (ex-U.S.S. *Lucid*, *AM* 259, 5 June 1943)

(4 *rated as Gunboats*)

51 YUNG CHANG (ex-U.S.S. *Refresh*, *AM* 287, 12 Apr. 1944)
52 YUNG CHUN (ex-U.S.S. *Gavia*, *AM* 363, 18 Sep. 1943)
53 YUNG HO (ex-U.S.S. *Delegate*, *AM* 217, 28 Mar. 1943)
54 YUNG KANG (ex-U.S.S. *Elusive*, *AM* 225, 10 June 1943)

(1 *rated as Minelayer*)

50 YUNG FENG (ex-U.S.S. *Prime*, *AM* 279, 22 Jan. 1944)

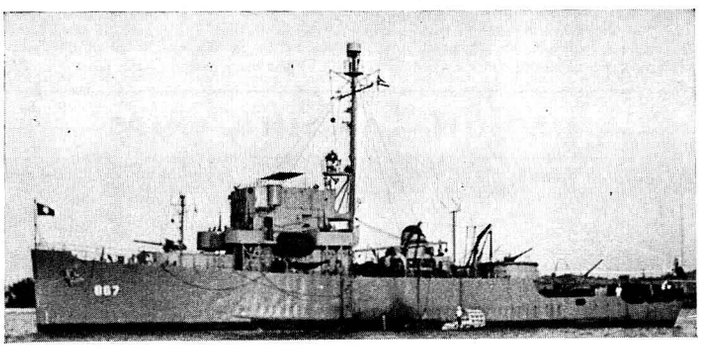
(1 *rated as Coastguard*)

A4 YUNG HSING (ex-U.S.S. *Embattle*, *AM* 226, 17 Sep. 1944)

Displacement:	650 tons *standard* (945 tons *full load*)
Dimensions:	180 (*w.l.*), 184½ (*o.a.*) × 33 × 9¾ feet (*max.*)
Guns:	1—3 inch d.p., 3—40 mm. AA., 6—20 mm. AA. (*Yung Chang*, 2—5 inch d.p., 4—40 mm. AA., 6—20 mm. AA.)
Machinery:	Diesel. 2 shafts. B.H.P.: 1,710=14·8 kts.
Complement:	104

Notes
All MSF (ex-AM) type fleet minesweepers acquired from the U.S. Navy.. Launch dates above. *Yung Feng* is fitted for minelaying with tracks on her stern and is rated as a coastal minelayer. *Yung Chang*, *Yung Chun*, *Yung Ho* and *Yung Kang* are rated as gunboats. The 20 mm. guns in *Yung Ho* and *Yung Kang* were replaced by 40 mm. guns. *Yung Hsing* serves as a maritime customs vessel.

ESCORT PATROL VESSELS



YUNG TAI — *Added* 1960

2 Ex-U.S. PCE Type

WEI YUAN (ex-*Yung Hsiang*, ex-*PCE* 869, 6 Feb. 1943)
YUNG TAI (ex-U.S.S. *PCE* 867, 3 Dec. 1942)

Displacement:	640 tons *standard* (903 tons *full load*)
Dimensions:	180 (*w.l.*), 184½ (*o.a.*) × 33 × 9½ feet (*max.*)
Guns:	2—3 inch d.p., 3—40 mm. AA., 6—20 mm. AA., 4 D.C.T.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,800=17 kts.
Complement:	110

Notes
Launch dates above. Built by Albina Engine and Machinery Works, Portland, Ore. One 3 inch, 50 cal. gun was added in 1955. Rated as gunboats. Pennant Nos.: *Wei Yuan* 42, *Yung Tai* 41.

1 Ex-Italian Minelaying Type

HSIEN NING (ex-Japanese *Okitsu*, ex-Italian *Lepanto*)

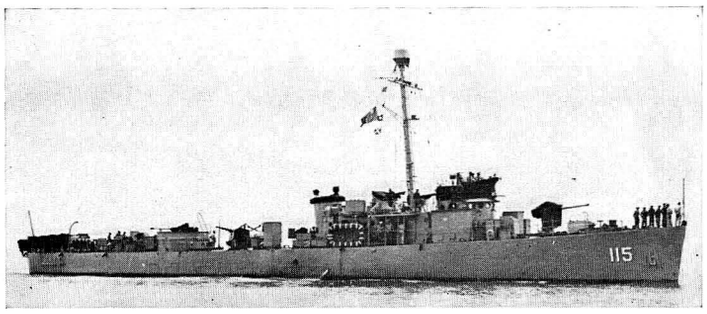
Displacement:	615 tons *standard* (848 tons *full load*)
Dimensions:	204 × 28½ × 8½ feet
Guns:	3—3 inch, 2—40 mm. AA., 4—20 mm.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,500=13 kts.
Boilers:	2 watertube
Coal:	145 tons
Radius:	3,500 miles
Complement:	184

Notes
Launched on 22 May, 1927. Former Italian minelayer with a capacity of 80 mines. Also fitted for minesweeping. Now rated as a gunboat or escort patrol vessel. No. 79.

SUBMARINES

Notes
Early in 1960 Nationalist China asked the United States to equip the Nationalists with submarines, and on 14 Mar. 1960, Taiwan China confirmed reports that it will receive submarines from the U.S. Navy under the Mutual Defense Assistance Program.

SUBMARINE CHASERS



CHUNG KIANG — *United States Navy, Official*

17 Ex-U.S. PC Type

104 TO KIANG (ex-*Chialing*, ex-U.S. *PC* 1247), 7 Aug. 1943
105 FU KIANG (ex-*Hwangpu*, ex-U.S. *PC* 492), 29 Dec. 1941
109 CHIH KIANG (ex-U.S. *PC* 1078), 8 Aug. 1942
110 YUAN KIANG (ex-U.S. *PC* 1182) 14 June 1943
111 LI KIANG (ex-U.S. *PC* 1208) 15 Sep. 1943
112 CHANG KIANG (ex-U.S. *PC* 1232) 12 Dec. 1942
113 KUNG KIANG (ex-U.S. *PC* 1233) 11 Jan. 1943
114 PO KIANG (ex-U.S. *PC* 1254) 31 Oct. 1942
115 CHUNG KIANG (ex-U.S. *PC* 1262) 27 Mar. 1943
116 CHING KIANG (ex-U.S. *PC* 1168) 3 July 1943
118 HSIANG KIANG (ex-U.S. *PC* 786) 6 Feb. 1943
119 TUNG CHANG (ex-U.S.S. *Placerville*, ex-*PC* 1087)
120 HSI CHANG (ex-U.S.S. *Susanville*, ex-*PC* 1149)
122 PEI CHANG (ex-U.S.S. *Hanford*, ex-*PC* 1142)
123 LIU CHANG (ex-U.S.S. *Escondido*, ex-*PC* 1169)
124 HAN CHANG (ex-U.S.S. *Vandalia*, ex-*PC* 1175)
125 CHU KIANG (ex-U.S.S. *Milledgeville*, ex-*PC* 1263)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	173¾ (*o.a.*) × 23 × 10¾ (*max.*) feet
Guns:	1—3 inch, 50 cal., 1—40 mm. AA., 5—20 mm. AA.
Machinery:	Diesel. B.H.P.: 2,880=20 kts.
Oil fuel:	60 tons
Radius:	5,000 miles at 10 kts.
Complement:	65

Notes
Launch dates above. *Chien Fang* and *Wu Sung* were discarded in 1951-52. *Hanford*, *Placerville*, *Escondido* and *Vandalia* were transferred from the United States Navy to the Chinese (Taiwan) Navy on 15 July 1957. *Milledgeville* was transferred at Key West, Florida, in July 1959.

07 MIN CHIANG (ex-*Fu Ling*, ex-No. 9, ex-*Hai Ta*, ex-No. 402)

Displacement:	290 tons *standard* (309 tons *full load*)
Dimensions:	184½ (*o.a.*) × 18½ × 7 feet
Guns:	2—40 mm., 3—25 mm., D.C. 36
Machinery:	Diesel. 2 shafts. B.H.P.: 2,600=19 kts.

9 Ex-U.S. SC Type

SC 502 (ex-102 *Chu Chien*, ex-*SC* 708) — **SC 503** (ex-103 *Chu Chien*, ex-*SC* 698)

Ex-**SC 518**	Ex-**SC 648**	Ex-**SC 722**	Ex-**SC 735**
Ex-**SC 637**	Ex-**SC 703**	Ex-**SC 723**	

Displacement:	95 tons *standard* (148 tons *full load*)
Dimensions:	107½ (*w.l.*), 110⅝ (*o.a.*) × 17 × 6½ feet
Guns:	1—40 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 800=15½ kts.
Complement:	28

Notes
SC 501 (ex-101 *Chu Chien*, ex-SC 704) is not on the active list, and has been laid up for disposal.

COASTAL MINESWEEPERS

4 Ex-U.S. MSC Type

MSC 55 (ex-U.S.S. *MSC* 123) — **YUNG CHUAN,** MSC 58 (ex-U.S.S. *MSC* 278)
MSC 56 (ex-U.S.S. *MSC* 140) — **YUNG NIEN,** MSC 57 (ex-U.S.S. *MSC* 277)

Displacement:	335 tons *light* (378 tons *full load*)
Dimensions:	138 (*pp.*), 145 (*o.a.*) × 27 × 8¼ feet
Guns:	2—20 mm. AA.
Machinery:	2 General Motor diesels. 2 shafts. B.H.P.: 880=14 kts.
Complement:	40

Notes
Former "Bluebird" class American non-magnetic coastal minesweepers of wooden hull construction. Built in U.S.A. MSC 123 and MSC 140 were transferred to China (Taiwan) under the Mutual Defense Assistance Program on 4 June 1955. MSC 277, launched on 30 June 1958, and MSC 278, launched on 1 Aug. 1958, both built by the Tacoma Boatbuilding Co., were transferred at Seattle on 10 June and 10 July, respectively, in 1959.

2 Ex-Japanese AMS Type

541 CHIANG (ex-No. 22) — **542 CHIANG YUNG** (ex-No. 19)

Displacement:	222 tons *normal*
Dimensions:	98 × 19½ × 7¾ feet
Guns:	2—40 mm., 2—25 mm., 2 M.G.
Machinery:	Diesel
Speed:	9 kts.

Notes
Former Japanese auxiliary minesweepers. Built in Japan in 1942-43.

GUNBOAT

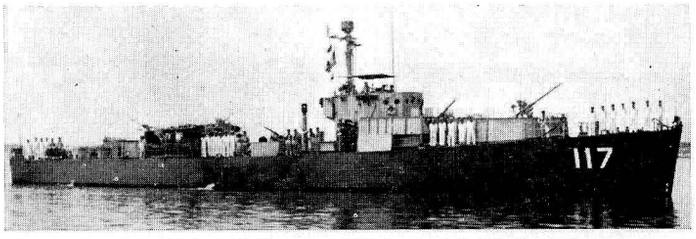
CHU KUAN

Displacement:	740 tons *standard*
Dimensions:	200 × 30 × 8 feet
Guns:	3—25 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,350=11 kts.
Boilers:	Yarrow
Fuel:	150 tons coal
Complement:	117

Notes
Built by Kawasaki Co., Kobe, Japan. Launched in 1907. Pennant No.: 75.

Recent Disposals.
The old gunboat *Yung Hsiang* has been stricken from the effective list.
The auxiliary minelayer *Chieh* 29 (ex-*Kuroshimu*) has also been deleted from the active list.

MOTOR GUNBOATS



CHU KIANG 1962, *Official*

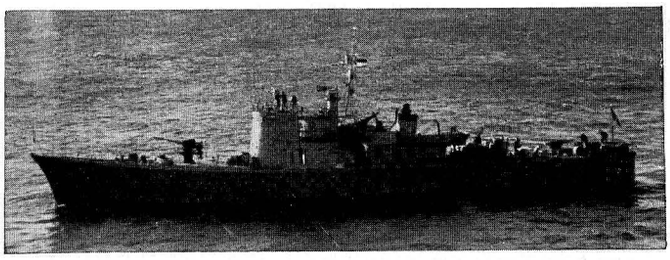
2 Ex-U.S. PGM Type

102 OU CHANG (ex-*Hung Tse*, ex-U.S.S. *PGM* 26) **117 CHU KIANG** (ex-U.S.S. *PGM* 31, ex-*PC* 1567)

Displacement:	295 tons *standard* (470 tons *full load*)
Dimensions:	174 (*o.a.*) × 23 × 6½ feet
Guns:	1—3 inch, 1—40 mm. AA., 4—20 mm. AA.
Machinery:	2 Diesel. B.H.P.: 3,600 = 20 kts.
Complement:	80

Notes

Three boats were built by Consolidated Shipbuilding Corpn., Morris Heights, N.Y., of which *Pao Ying* was launched on 7 May 1944 and *Hung Tse* on 29 Sep. 1944. *Chu Kiang* was transferred from the U.S. Navy in 1954. 103 *Ling Chiang* (ex-*Tung Ting*, ex-U.S.S. *PGM* 13) was torpedoed and sunk by Chinese Republican motor torpedo boats on 10 Jan. 1955. 101 *Ying Chiang* (ex-*Pao Ying*, ex-U.S.S. *PGM* 20) was torpedoed by Republican motor torpedo boats on 20 Jan. 1955, and was subsequently scrapped as beyond economical repair.



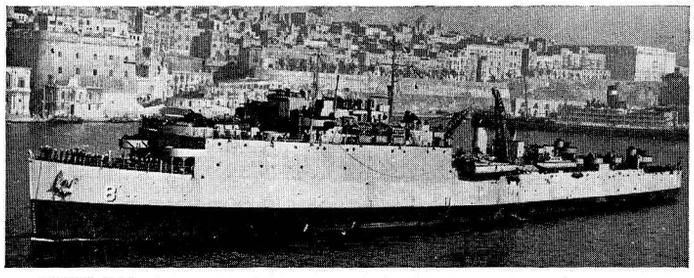
CHU CHIANG 1950, *Lieut. A. W. Sugden, R.N.*

1 Ex-Japanese Type

106 CHU CHIANG (ex-*Ya Ling*, ex-No. 49, ex-*Hai Hung*, SC 401)

Displacement:	420 tons *standard* (460 tons *full load*)
Dimensions:	167½ (*o.a.*) × 22 × 9 feet
Guns:	1—3·1 inch (8 cm.), 3—25 mm. AA., 2—13 mm. AA. M.G.
A/S weapons:	36 depth charges.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700 = 16 kts.

DOCK LANDING SHIP (LSD)



TUNG HAI *A. & J. Pavia*

1 Ex-U.S. "Ashland" Class

TUNG HAI, LSD 191 (ex-U.S.S. *White Marsh*, LSD 8)

Displacement:	4,790 tons *standard* (8,700 tons *full load*)
Dimensions:	454 (*w.l.*), 457¾ (*o.a.*) × 72 × 18 feet
Guns:	12—40 mm. AA.
Machinery:	Skinner Unaflow engines. 2 shafts. I.H.P.: 7,400 = 15·6 kts.
Boilers:	2, of 2-drum type
Complement:	326 (total accommodation)

General Notes

Built by Moore Dry Dock Co. Launched on 19 July 1943. Designed to serve as parent ship for landing craft and coastal craft. Transferred from the United States Navy to the Chinese (Taiwan) Navy on 17 Nov. 1960 at Long Beach, California, under MAP.

REPAIR SHIPS

335 CHUNG CH'UAN (ex-*LST* 202 ex-U.S.S. *LST* 1030)

Displacement:	1,653 tons *standard* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700 = 11 kts.
Cargo capacity:	2,100 tons
Complement:	211

Notes

Former American tank landing ship converted into a repair ship. Built at Boston Navy Yard. Laid down on 27 May 1944, launched on 25 June 1944 and completed on 19 July 1944.

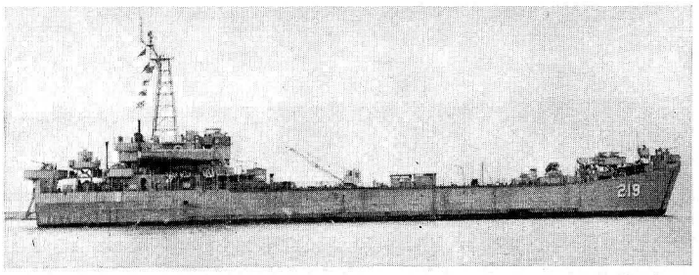
Ex-**VULCAIN** (ex-U.S.S. *Agenor*, *ARL* 3, ex-*LST* 490)

Displacement:	1,625 tons (*light*) 4,080 tons (*full load*)
Dimensions:	328 (*o.a.*) × 50 × 14½ (*max.*) feet
Guns:	8—40 mm. AA.; 8—20 mm. AA.
Machinery:	2 diesels. B.H.P.: 1,700 = 10·8 kts.
Oil fuel:	1,060 tons
Radius:	6,000 miles at 9 kts.

Notes

Former United States ocean tank carrier with bow doors. Built by Kaiser Co., Inc., Vancouver, Wash. Laid down on 24 Jan. 1943. Launched on 3 Apr. 1943. Completed on 20 Aug. 1943. Transferred from the U.S. Navy to France in 1951 for service in Indo-China. This ship was returned to the U.S.A. by France, and then transferred to (Taiwan) China by the U.S.A. on 15 Sep. 1957.

TANK LANDING SHIPS



CHUNG SHIH 1962, *Official*

Ex-U.S. LST Type

LST 218 (ex-*LST* 279, *Berkeley County*) Ex-**LST 400 BRADLEY COUNTY** Ex-**LST 735 DUKES COUNTY**

Notes

Former United States tank landing ships transferred to Nationalist China at San Diego, in July 1955 and 1960 (*Dukes County*)

LST 216 CHUNG KUANG (ex-U.S.S. *LST* 503) Ex-U.S.S. **LST 520**
LST 226 CHUNG SHIH (ex-U.S.S. *Sagadahoc County*, *LST* 1091) Ex-U.S.S. **LST 535**
LST 227 CHUNG MING (ex-U.S.S. *Sweetwater County*, *LST* 1152) Ex-U.S.S. **LST 578**
LST 231 CHUNG YEH (ex-U.S.S. *Sublette County*, *LST* 1144)

Notes

LST 216 was transferred from United States Navy at San Diego 29 April 1955, and LST 226 and LST 227 were transferred at Seattle on 21 Oct. 1958. LST 520, 535 and 578 were transferred to Taiwan China in Sep. 1958. LST 231 was transferred at Charleston, S.C., on 21 Sep. 1961.

An LST was torpedoed and sunk by Chinese Republican torpedo boats off Quemoy on 25 Aug. 1958.

200 CHUNG YEH (ex-*Chung* 108, ex-*LST* 1056)
202 CHUNG CH'UAN (ex-*Wan Yiu*, ex-*Lu Yi*, ex-*LST* 640)
224 CHUNG CHENG (ex-U.S.S. *Lafayette County*, *LST* 859)
206 CHUNG CHI (ex-*LST* 1017)
205 CHUNG CHIEN (ex-*LST* 716)
225 CHUNG CHIANG (ex-U.S.S. *San Bernadino County*, *LST* 1110)
CHUNG CHIN
223 CHUNG FU (ex-U.S.S. *Iron County*, *LST* 840)
201 CHUNG HAI (ex-*LST* 755)
219 CHUNG HSI
204 CHUNGNG HSI (ex-*LST* 557)
208 CHUNG KUN (ex-*Wan Kuo* ex-*LST* 732)
209 CHUNG LIEN (ex-*LST* 1050)
CHUNG MING
203 CHUNG TING (ex-*LST* 537)
211 CHUNG SHENG (ex-*LST* 1033)
315 CHUNG YU (ex-*Wan Li*, ex-*LST* 330)
210 CHUNG YUNG (ex-*LST* 574)

Displacement:	1,653 tons *standard* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	6—40 mm. AA., 12—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700 = 11 kts.
Complement:	119

Notes

LST 208 *Chung Hsun* (ex-*LST* 993) is believed to have been lost, since a newly acquired LST has been numbered 208. Five of above (200, 202, 308, 313, 315) were acquired from the merchant service in 1955. LST 313 *Chung Kung* (ex-*Chung*, ex-*LST* 945) was scrapped in 1956. LST 207 *Chung Cheng* reported to be scrapped in 1958. LST 213, 224 and 225 were transferred from the United States Navy in 1958. LST 200 Chung Yeh (ex-LST 1056) is believed tc have been discarded, since a newly acquired LST has been named Chung Yeh.

MEDIUM LANDING SHIPS



MEI KUN 1962, *Official*

Ex-U.S. LSM Type

241 MEI CHEN (ex-*LSM* 155)
245 MEI HENG (ex-*LSM* 456)
248 MEI HO (ex-*LSM* 13)
244 MEI PENG (ex-*LSM* 431)
246 MEI HUNG (ex-*LSM* 442)
247 MEI SUNG (ex-*LSM* 457)
243 MEI I (ex-*LSM* 285)
249 MEI CHIEN (ex-*LSM* ———)
252 MEI KUN (ex-U.S.S. *LSM* ———)
253 (ex-U.S.S. *LSM* ———)
254 MEI WEN (ex-*LSM* 472)
255 MEI HAN (ex-*LSM* 474)
256 MEI LO (ex-U.S.S. *LSM* 362)
Ex-**LSM 422**
Ex-**LSM 471**
Ex-**LSM 478**

Displacement:	743 tons *standard* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 7⅓ feet
Guns:	2—40 mm. AA., 4—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 2,800 = 12 kts.
Complement:	59 (*Mei Lo* 6 officers and 46 men)

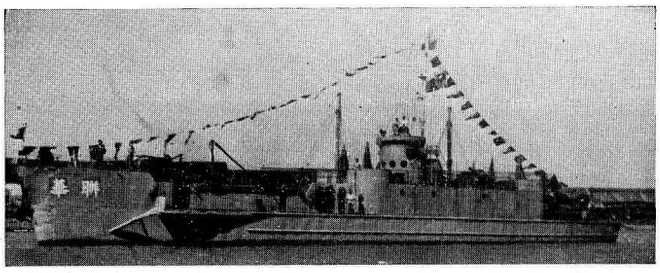
Notes

Mei Lo 242 (ex-*LSM* 157) was destroyed by Chinese Republican artillery and beached on Quemoy Island on 8 Sep. 1958. *Mei Wen*, 254, and *Mei Han*, 255, were transferred from the United States Navy at Seattle, Wn., on 6 Feb. 1959. LSM 422, LSM 471 and LSM 478 were also loaned to Nationalist China by the U.S.A. in 1959. *Mei Lo*. 256 (ex-*LSM* 362) was transferred at Bremeston, Wash. in May. 1962.

Recent Disposals

Lu Shan (ex-Japanese LST No. 172), which went aground and was found to be beyond repair, is reported to have been removed from the effective list.

LANDING CRAFT



LIEN HUA *Added 1957*

LSIL Type

264 LIEN CHENG (ex-*LCI (M)* 630)
265 LIEN HUA (ex-*LCI (G)* 631)
261 LIEN CHU (ex-*LCI (G)* 233)
262 LIEN LI (ex-*LCI (G)* 417)
263 LIEN SHENG (ex-*LCI (G)* 418)
266 LIEN CHIEH

Displacement:	227 tons *standard* (387 tons *full load*)
Dimensions:	159 × 23⅜ × 5¾ feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,320 = 14 kts.
Complement:	28

Notes
Former United States Landing Craft, Infantry (Gunboat) and Landing Craft, Infantry (Mortar). Armament varies.
China (Taiwan) received ex-U.S. *LSIL* 818, 1017, 1092 from the United States under MDAP (they were formerly on loan to France from the U.S.A. for service in Indo-China) to be used only for cannibalization.

LSSL Type

271 LIEN CHIH (ex-U.S.S. *LSSL* 56)
272 LIEN JEN (ex-U.S.S. *LSSL* 81)
273 LIEN YUNG (ex-U.S.S. *LSSL* 95)

Displacement:	227 tons *standard* (387 tons *full load*)
Dimensions:	153 (*w.l.*), 158 (*o.a.*) × 23⅜ × 5¾ feet
Guns:	6—40 mm. AA. (twin), 10 rocket launchers
Machinery:	G.M. diesels. 2 shafts. B.H.P.: 1,320 = 14·4 kts.
Complement:	78

Notes
These ex-U.S. Navy LSSLs, formerly LCS(L)3, Landing Craft Support (Large) were transferred to China (Taiwan) at Yokosuka, Japan, on 19 Feb. 1954.
China (Taiwan) received ex-U.S. *LSSL* 2 and 28 from the United States under MDAP (they were formerly on loan to France from the U.S.A. for service in Indo-China) to be used only for cannibalization.

LCU (ex-LCT) Type

405 HO CHANG (ex-*LCT* 512)
406 HO CHEN (ex-*LCT* 1145)
403 HO CHENG (ex-*LCT* 1143)
407 HO CHIH (ex-*LCT*)
401 HO CHUN (ex-*LCU* 892)
404 HO CHUNG (ex-*LCT* 849)
402 HO CH'UNG (ex-*LCT* 1213)

Displacement:	134 tons *standard* (285 tons *full load*)
Dimensions:	114¼ × 32⅜ × 3½ feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. 3 shafts. B.H.P.: 675 = 10 kts.
Complement:	11

Notes
Additional landing craft have been transferred, including 5 LCU under MDAP (craft formerly on loan to France from the U.S.A. for use in Indo-China). Those named so far are ex-LCU 638, 700, 1225, 1271, 1596, 1597, 1598, 1600 and 1601.

SURVEYING SHIPS

361 CHING TIEN

Displacement:	535 tons *standard*
Dimensions:	150 × 31 × 9½ feet
Guns:	2—25 mm., 7 M.G.
Machinery:	Reciprocating engines (coal) = 10 kts
Complement:	90

Notes
Built in China in 1939. Employed on coastal and inshore surveying duties

861 CHIAO SHAN

Displacement:	170 tons *standard*
Guns:	3 M.G.

Notes
Small surveying craft also employed as a tender and general purpose vessel.

PATROL CRAFT

521 HAI LI	**541 CHIANG I**	**581 P'AO 101**	**633 P'AO 3**
522 HAI NING	**542 CHIANG YUNG**	**584 P'AO 104**	**634 P'AO 4**
523 HAI YAO	**543 CHIANG HSIU**	**587 P'AO 107**	**635 P'AO 5**
524 HAI WEI	**544 CHIANG TING**	**588 P'AO 108**	**636 P'AO 6**
525 HAI AN	**545 CHIANG MING**	**591 P'AO 111**	**637 P'AO 7**
526 HAI CHING	**546 CHIANG LIEN**	**592 P'AO 112**	**638 P'AO 8**
	547 CHIANG P'ING	**593 P'AO 113**	**639 P'AO 9**
	548 CHIANG FENG	**594 P'AO 114**	**640 P'AO 10**
	549 CHIANG KUNG	**595 P'AO 115**	**641 P'AO 11**
	550 CHIANG LUN	**596 P'AO 116**	**642 P'AO 12**
YP 625	**551 CHIANG CH'ENG**	**631 P'AO 1**	**643 P'AO 13**
		632 P'AO 2	**646 P'AO 16**

6 Ex-HDML Type

681 FANG I
682 FANG SAN
684 FANG SEU
685 FANG CHI
686 FANG LIU
687 FANG PA

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 × 15⅔ × 4⅓ feet
Guns:	1—40 mm., 1—20 mm., 4 M.G.
Machinery:	2 Diesels. B.H.P.: 320 = 11 kts.
Complement:	14

Notes
Former harbour defence motor launches. Built in Great Britain in 1942-43. *Fang* 3 and *Fang* 8 were sunk in 1950

6 MTB Type

FU CHOU (PT 511)
HSUEH CHIH (PT—)

Notes
Built by Mitsubishi Zosen Co., Japan in 1957. Armed with 18-inch torpedo tubes and 1—20 mm. AA. gun aft.

TRANSPORTS

Ex-No. 172

Displacement:	1,129 tons *standard*
Dimensions:	264 (*o.a.*) × 30 × 10¼ feet
Guns:	1—3·1 inch (8 cm.), 21—25 mm. AA., 12 D.C.
Machinery:	Turbine. S.H.P.: 2,500 = 16 kts.
Boilers:	2

Notes
Ex-Japanese. Vehicle carrying ship discharging through bow doors.

312 KUN LUN (ex-*Hai Chi*, ex-Japanese *Kaiki*)

Displacement:	1,612 tons *standard*
Dimensions:	261 (*o.a.*) × 43¼ × 12 feet
Guns:	1—40 mm., 4—25 mm., 2—20 mm., 6 M.G
Machinery:	Reciprocating. H.P.: 1,650 = 9 kts.
Complement:	130

Notes
Built in 1919. Small coastal transport.

314 NAN HU (ex-S.S. *Tai Hui*, ex-S.S. *Steelmotor*)

Displacement:	1,695 tons *standard*
Dimensions:	250 × 42¼ × 16½ feet
Machinery:	Diesel. Speed 8·5 kts.
Complement:	85

Notes
Built in U.S.A. in 1923. Cargo ship/transport. Captured and taken over by Chinese (Taiwan) Navy.

313 TIEN CHU
316 TIEN TAI
315 CHIU HUA
317 CHUNG SHAN
HUEI FENG

Notes
Displacements and other particulars vary in individual ships. *Tien Chu* is ex-Polish cargo ship *Prezydent Gottwald* captured by China while trading with the Communists and latter commissioned in the Taiwan Navy.
Recent Disposals.
The transports *Wuling*, 311 (ex-*Shirasaki*) and *Wu I* (ex-No. 16) are reported to be non-operational and stricken from the active list, available but laid up.

OILERS

307 CHANG PEI (ex-U.S.S. *Pecatonica*, AOG 57)

Displacement:	1,850 tons *light* (4,335 tons *full load*)
Measurement:	2,575 tons *deadweight*
Dimensions:	292 (*w.l.*), 310¾ (*o.a.*) × 48½ × 15¾ (*max.*) feet
Guns:	4—3 inch d.p., 50 cal.
Machinery:	Diesel-electric. 2 shafts. B.H.P.: 3,300 = 14 kts.
Complement:	124

Notes
Former United States petrol carrier of the "Patapsco" class. Built by Cargill, Inc., Savage, Minn. Laid down on 6 Dec. 1944. Launched on 17 Mar. 1945. Transferred to Taiwan China under MAP on 24 Apr. 1961 at Tsoying, Taiwan.

301 OMEI (ex-U.S.S. *Maumee*)

Displacement:	4,990 tons *standard* (14,500 tons *full load*)
Dimensions:	475⅔ (*o.a.*) × 56 × 10 (*mean*), 26½ (*max.*) feet
Guns:	5—3 inch, 2—40 mm. AA., 8—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 5,000 = 14 kts.
Oil fuel:	820 tons

Notes
Built at Mare Island Yard, U.S.A. Cargo capacity 7,850 tons. Launched on 17 Apr. 1915.

KUEI CHI (ex-Soviet *Tuapse*)

Notes
Petrol tanker. Captured in 1954. Commissioned in Chinese Nationalist Navy in Feb. 1956.

304 SZU MING (ex-U.S.S. *YO* 198)

Displacement:	1,400 tons *full load*
Dimensions:	174 (*o.a.*) × 32 × 15 feet
Guns:	1—25 mm., 2—20 mm., 2 M.G.
Machinery:	Diesel. B.H.P.: 560 = 11 kts.

Notes
Built in U.S.A. in 1945 by Manitowoc Shipbuilding Co., Wis. Oil capacity 6,570 barrels.

302 HSIN KAO (ex-*Tai Hwa*, ex-U.S.S. *Towaliga*, *AOG* 42)
303 YU CHUAN (ex-*Wautauga*, *AOG* 22, ex-*Conrol*, ex-*YOG* 52, U.S.S. *Sakatonchee*)

Displacement:	700 tons *standard* (2,700 tons *full load*)
Measurement:	1,453 tons *deadweight*
Dimensions:	212½ (*w.l.*), 220½ (*o.a.*) × 37 × 12¾ feet
Guns:	1—3 inch, 2—40 mm. AA., 3—20 mm. AA.
Machinery:	Diesel. 1 shaft. B.H.P.: 800 = 10 kts.

Notes
Ex-U.S. TI-M-A2 type small oilers. Both above ships are ex-U.S. "Mettawee" class. *Hsin Kao* was launched by East Coast Shipyards on 29 Oct. 1944, and *Yu Chuan* by Todd Galveston S.B. Co. on 10 Jan. 1944.

305 HO LAN (ex-Polish oiler *Praca*)

Notes
Measurement: 8,410 tons *gross*. Seized by Nationaist China in Oct. 1953.

FLEET TUGS

341 PU TO (ex-*ATR* 26)

Displacement:	850 tons *standard* (1,312 tons *full load*)
Dimensions:	155 (*w.l.*), 165½ (*o.a.*) × 33½ × 15½ feet
Guns:	1—25 mm., 4 M.G.
Machinery:	Triple expansion. I.H.P.: 1,600 = 12 kts.
Boiler:	Babcock & Wilcox
Complement:	52

Notes
Launched on 23 Apr. 1944. Built of wood. It was hoped to acquire 4 more tugs of above type, 4 of ATA type, and 30 smaller ones.

342 WU KUNG (ex-*Pei Chi* No. 1, ex-*LT*)
343 TA MING (ex-*LT* 300)
334 TA HUNG (ex-*LT* 530)
335 TA CH'ING (ex-*LT* 355)

Displacement:	570 tons *light* (967 tons *full load*)
Dimensions:	149 (*o.a.*) × 33 × 15 feet
Guns:	1—40 mm., 2—20 mm.
Machinery:	Reciprocating. Oil fuel. H.P.: 1,200 = 12 kts.
Complement:	20

Notes
Built in U.S.A. in 1943. *Ta Ch'ing* reported decommissioned on 1 June 1951.

345 TA YU (ex-*LT* 310)
TA SUEH (ex-U.S.S. *Tonkowa*, *ATA* 176)

Displacement:	534 tons *standard* (835 tons *full load*)
Dimensions:	133⅔ (*w.l.*), 143 (*o.a.*) × 33⅔ × 13½ feet
Guns:	2—25 mm., 2 M.G. (*Ta Sueh* 1—3 inch)
Machinery:	Diesel-electric. H.P.: 1,500 = 12·5 kts.
Complement:	49 officers and men (*Ta Sueh*)

Notes
Ta Yu (ex-*LT* 310) is a former U.S. Army tug of the ATA/ATR 143 ft. class built in the U.S.A. in 1944-45. *Ta Sueh* (ex- U.S.S. *Tonkawa*, *ATA* 176) is a former U.S. Navy tug of the "Marikopa" class built by Levingstone S.B. Co., Orange, Texas, laid down on 30 Jan. 1944, launched on 1 Mar. 1944 and completed on 19 Aug. 1944, and transferred at Seattle, Wash. on 5 Apr. 1962.

ROYAL THAI NAVY

Administration

Commander-in-Chief of the Navy:
Admiral Luang Chamnarnadhayudha

Chief of the Naval Staff:
Admiral Charoon Charlermtiarana

Naval Attaché in London:
Captain Adul Tulyanon

Personnel

1962: *Navy*, 2,000 officers and 16,000 ratings

Marine Corps, 130 officers and 3,200 men

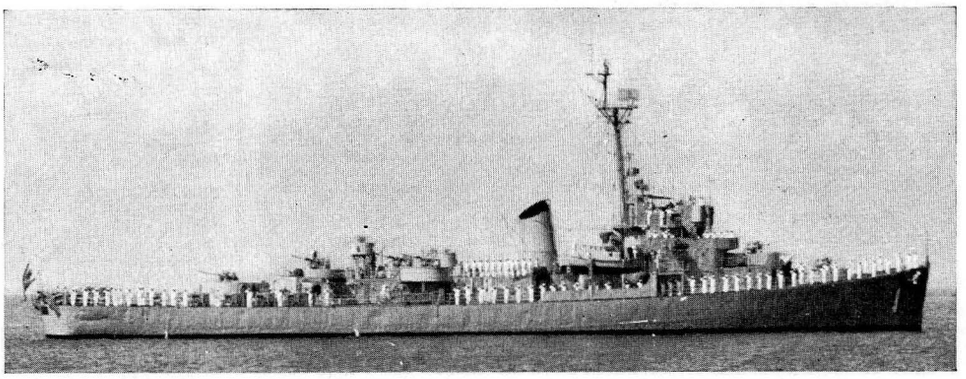
DESTROYER ESCORT

Ex-U.S. DE Type

1 "Bostwick" Class

PIN KLAO (ex-U.S.S. *Hemminger*, *DE* 746)

Builders:	Western Pipe & Steel Co.
Launched:	12 Sep. 1943
Completed:	30 May 1944
Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅜ × 14 (*max.*) feet
Guns:	3—3 inch, 50 cal. dual purpose; 2—40 mm. AA.; 4—20 mm. AA.
Tubes:	Removed
A/S weapons:	Depth charge throwers
Machinery:	General Motors diesels with electric drive. 2 shafts. B.H.P.: 6,000=21 kts. (designed), 20 kts. sea speed
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	220



PIN KLAO — 1960, *Royal Thai Navy, Official*

Notes

Former United States patrol vessel (destroyer escorts) of the DE type, "Bostwick" class. Transferred from the United States Navy to Thailand at New York Naval Shipyard in July 1959 under the Mutual Defense Assistance Program and given the new Thai name *Pin Klao*.

FRIGATES

Ex-U.S. PF Type

2 "Prasae" Class

PRASAE (ex-U.S.S. *Gallup*, *PF* 47)

TACHIN (ex-U.S.S. *Glendale*, *PF* 36)

Name:	*Prasae*	*Tachin*
Pennant No.:	2	1
Builders:	Consolidated Steel Corporation, Los Angeles	Consolidated Steel Corporation, Los Angeles
Laid down:	18 Aug. 1943	6 Apr. 1943
Launched:	17 Sep. 1943	28 May 1943
Completed:	29 Feb. 1944	1 Oct. 1943

Displacement:	1,430 tons *standard* (2,100 tons *full load*)
Dimensions:	304 (*o.a.*) × 37½ × 13¾ (*max.*) feet
Guns:	3—3 inch, 50 cal. *d.p.*; 10—40 mm. and 20 mm. AA.
A/S weapons:	6 D.C.T.
Machinery:	Triple expansion, 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2 small water tube, three-drum type
Oil fuel:	685 tons
Radius:	9,500 miles at 12 kts.
Complement:	180



TACHIN — 1953, *Royal Thai Navy, Official*

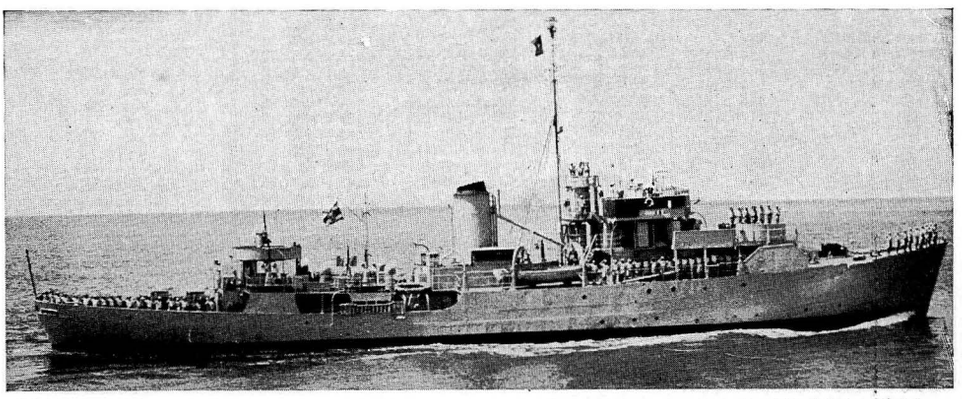
Notes

Former United States patrol frigates of the "Tacoma" class, or PF type. Delivered to the Royal Thai Navy on 29 Oct. 1951. They are of similar design to the British frigates of the "River" class.

1 Ex-British "Flower" Class

BANGPAKONG (ex-*Gondwana*, ex-*Burnet*)

Builders:	Ferguson Bros. Ltd., Port Glasgow
Laid down:	2 Nov. 1942
Launched:	31 May 1943
Completed:	23 Sep. 1943
Displacement:	1,060 tons *standard* (1,350 tons *full load*)
Dimensions:	193 (*pp.*), 203¼ (*o.a.*) × 33 × 13¾ (*mean*) feet
Guns:	1—4 inch, 7—20 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	Triple expansion. I.H.P.: 2,880=16 kts.
Boilers:	2, of 3-drum type
Oil fuel:	282 tons
Radius:	4,800 miles at 12 kts.
Complement:	101 (129 war)



BANGPAKONG — 1955, *Royal Thai Navy, Official*

Notes

Former British corvette (later reclassified as a frigate) of the "Flower" class which served in the Indian Navy before she was transferred to the Royal Thai Navy. Sister ship *Prasae* (ex-*Sind*, ex-*Betong*) was lost during the Korean War on 13th January, 1951.

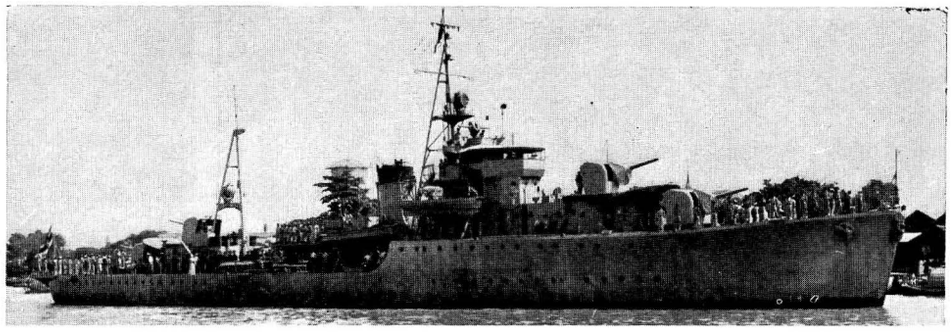
Frigates—*continued*

1 Sloop Type

MAEKLONG

Builders:	Uraga Dock Co
Ordered:	1934
Laid down:	1936
Launched:	27 Nov. 1936
Completed:	June 1937
Displacement:	1,400 tons *standard* (2,000 tons *full load*)
Dimensions:	269 × 34½ × 10½ (*mean*) feet
Guns:	4—4·7 inch, 2—40 mm. AA., 2—20 mm. AA.
Tubes:	4—18 inch
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,500=14 kts.
Boilers:	2 water-tube
Oil fuel:	487 tons
Radius:	8,000 miles at 12 kts.
Complement:	155 (as training ship)

Notes
Designed as a dual-purpose sloop and torpedo boat. Fitted for minesweeping. Employed as a training ship. May be disposed of in the near future. Sister ship *Tachin* was heavily damaged during the Second World War on 1 June 1945 and eventually scrapped.



MAEKLONG — 1952, *Official*

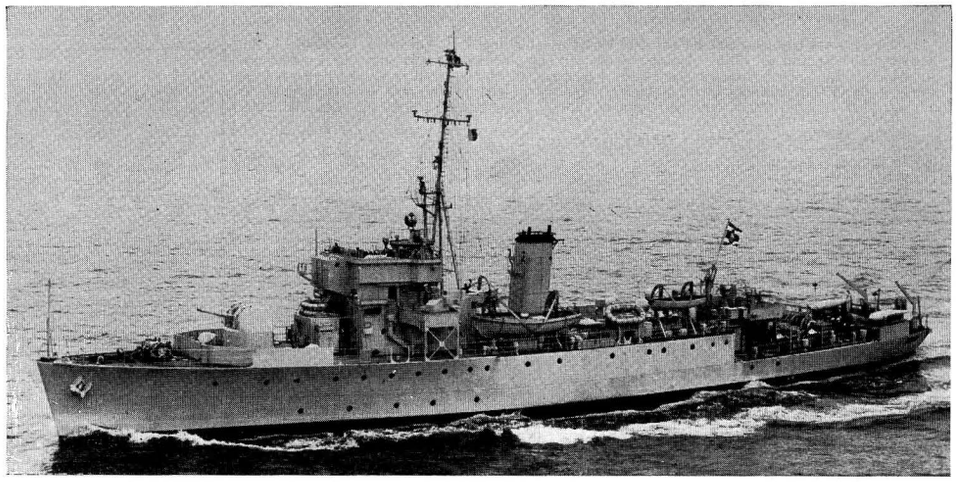
ESCORT MINESWEEPER

1 Ex-British "Algerine" Class

PHOSAMTON (ex-H M.S. *Minstrel*)

Builders:	Redfern Construction Co.
Laid down:	1943
Launched:	5 Oct. 1944
Completed:	1945
Displacement:	1,040 tons *standard* (1,335 tons *full load*)
Dimensions:	225 (*o.a.*) × 35½ × 10½ feet
Guns:	1—4 inch, 3—20 mm. AA.
A/S weapons:	2 D.C.T.
Machinery:	Triple expansion 2 shafts I.H.P.: 2,000=16 kts.
Boilers:	2, of 3-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 10 kts., 3,000 miles at 15 kts.
Complement:	103

Notes
Former British "Algerine" class minesweeper of ocean-going type capable of fleet sweeping and escort duties.



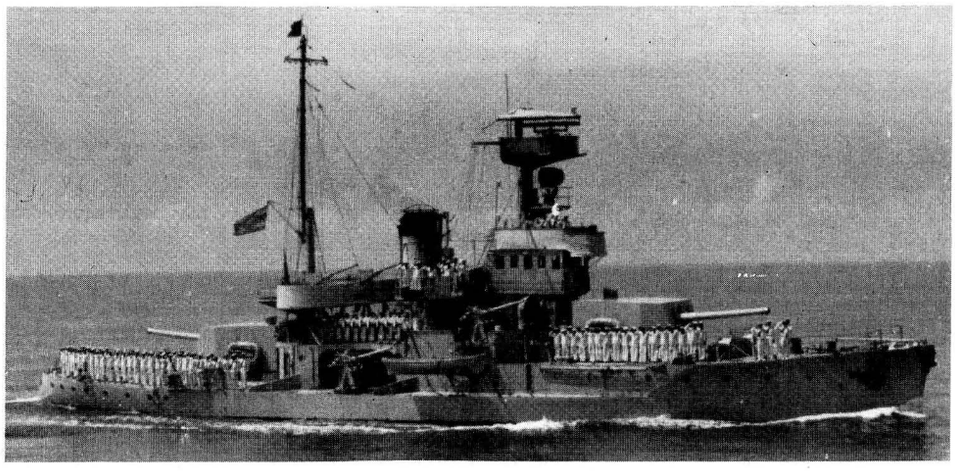
PHOSAMTON — 1957, *Official*

ARMOURED GUNBOATS

2 Coast Defence Type

	RATANAKOSINDRA	**SUKOTHAI**
Name:	*Ratanakosindra*	*Sukotha*
Builders:	Armstrong, Newcastle	Vickers Armstrong
Laid down:	29 Sept. 1924	Dec. 1928
Launched:	21 Apr. 1925	19 Nov. 1929
Completed:	Aug. 1925	Dec. 1930
Displacement:	886 tons *standard* (1,000 tons *full load*)	
Dimensions:	160 (*pp.*), 173 (*o.a.*) × 37 × 10¾ feet	
Guns:	2—6 inch, 4—3 inch AA., 2—40 mm. AA., 2—20 mm. AA.	
Armour:	Side 2½" (amidships), 1¼" ends, nickel steel; barbette rings, 2½" nickel steel; C.T., 4¾" cast steel armour; Upper deck, 1½"-¾" high tensile steel	
Machinery:	Triple expansion. 2 shafts. I.H.P.: 850=12 kts.	
Boilers:	2 oil-burning water-tube, working pressure 225 lbs.	
Oil fuel:	96 tons	
Radius:	2,000 miles at 10 kts.	
Complement:	103	

Notes
A photograph of *Ratanakosindra* appears in the 1950-51 to 1961-62 editions.



SUKOTHAI — 1962, *Royal Thai Navy, Official*

COASTAL MINELAYERS

2 Italian Type

BANGRACHAN (No. 1) **NHONG SARHAI** (No. 2)

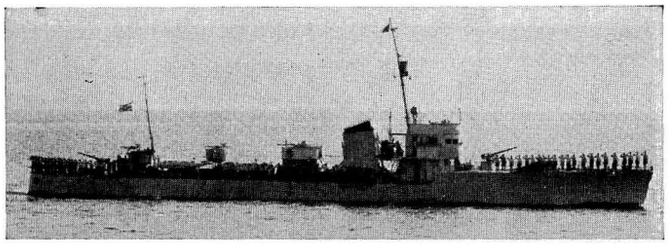
Displacement:	368 tons *standard* (408 tons *full load*)
Dimensions:	160¾ × 26 × 7½ feet
Guns:	2—3 inch AA., 2—20 mm. AA.
Mines:	142 capacity
Machinery:	Burmeister & Wain diesel engines. 2 shafts. B.H.P.: 540=12 kts.
Oil fuel:	18 tons
Radius:	2,700 miles
Complement:	55

General Notes
Built by Cant. Riuniti dell' Adriatico, Monfalcone. Launched 1936 and 22 July, 1936, respectively.
Photograph Notes
A photograph of *Bangrachan* appears in the 1956-57 to 1960-61 editions.



NHONG SARHAI — *Added 1961, Giorgio Arra*

PATROL VESSELS (*Torpedo Boats*)



TRAD — 1956, *Royal Thai Navy, Official*

7 Italian Type

TRAD (No. 11) 26 Oct. 1935
PUKET (No. 12) 28 Sep. 1935
PATTANI (No. 21) 16 Oct. 1936
SURASDRA (No. 21) 28 Nov. 1936
CHANDABURI (No. 22) 16 Dec. 1936
RAYONG (No. 23) 11 Jan. 1937
CHUMPORN (No. 31) 18 Jan. 1937

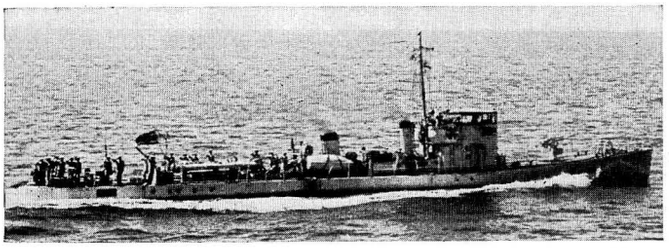
Displacement:	318 tons *standard* (470 tons *full load*)
Dimensions:	219 (*pp.*), 223 (*o.a.*) × 21 × 7 (*max.*) feet
Guns:	3—3 inch AA., 2—20 mm. AA., 4—8 mm.
Tubes:	6—18 inch (2 single, 4 paired)
Machinery:	Parsons geared turbines. 2 shafts. H.P.: 9,000=31 kts.
Boilers:	Yarrow
Oil fuel:	102 tons
Radius:	1,700 miles at 15 kts.
Complement:	70

Notes
First two were laid down on 8 Feb. 1935 by Cantieri Riunti dell' Adriatico, Monfalcone, for delivery by the end of 1935. Launch dates above. Armament was supplied by Vickers-Armstrongs Ltd. First boat reached 32·54 kts. on trials with 10,000 H.P. All delivered by summer of 1937. *Cholburi* and *Songkhla* were sunk in action with a French squadron on 17 Jan. 1941. It is planned to convert these torpedo boats to anti-submarine patrol vessels.

1 Thai Type

SATTAHIB (No. 8)

Notes
Built and equipped by the Royal Thai Naval Dockyard, Bangkok. Laid down on 22 Nov. 1956. Launched on 28 Oct. 1957. Of the same type as the Japanese built torpedo boats, see below.



KLONGYAI — 1956, *Royal Thai Navy, Official*

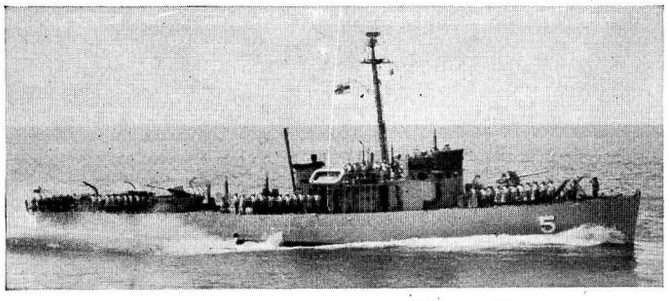
3 Japanese Type

KANTANG (No. 7) **KLONGYAI** (No. 5) **TAKBAI** (No. 6)

Displacement:	110 tons *standard* (135 tons *full load*)
Dimensions:	131½ × 15½ × 4 feet
Guns:	1—3 inch, 1—20 mm.
Tubes:	2—18 inch
Machinery:	Geared turbines. 2 shafts. S.H.P.: 1,000=19 kts.
Boilers:	2 water-tube
Oil fuel:	18 tons
Radius:	480 miles
Complement:	31

Notes
Built by Ishikawajima Co. All launched on 26 Mar. 1937. All completed on 21 June 1937.

PATROL VESSELS (*Submarine Chasers*)



PHALI — 1956, *Royal Thai Navy, Official*

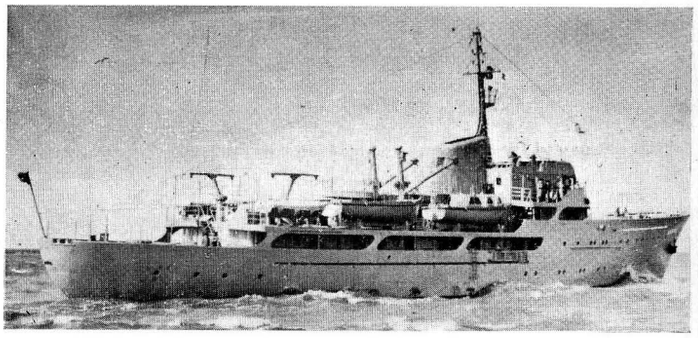
7 Ex-U.S. PC Type

LIULOM (*ex-PC* 1253)
LONGLOM (*ex-PC* 570)
PHALI (*ex-PC* 1185)
SARASIN (*ex-PC* 495)
SUKRIP (*ex-PC* 1218)
THAYANCHON (*ex-PC* 575)
TONGPLIU (*ex-PC* 616)

Displacement:	280 tons *standard* (400 tons *full load*)
Dimensions:	174 (*o.a.*) × 23¼ × 6 feet
Guns:	1—3 inch AA., 1—40 mm. AA., 5—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 3,600=19 kts.
Oil fuel:	60 tons
Radius:	6,000 miles at 10 kts.
Complement:	62 to 71

Notes
Former United States submarine chasers of the PC type. Launched in 1941-43. Used to prevent smuggling and as anti-submarine boats. *Khamronsin* (ex-*PC* 609) was removed from the effective list in 1956.

SURVEYING VESSEL



CHANTHARA — 1962, *Royal Thai Navy, Official*

CHANTHARA

Displacement:	870 tons *standard* (996 tons *full load*)
Dimensions:	229½ (*o.a.*) × 34½ × 10 feet
Machinery:	2 deisels. 2 shafts. B.H.P.: 1,000=13·25 kts.
Radius:	10,000 miles (cruising)
Complement:	69

Notes
It is officially stated that this ship is classed as a surveying vessel and that she was built by C. Melchers & Co., Bremen, Germany, having been laid down on 27 Sep. 1960 and launched on 17 Dec. 1960. Can also be used as training ship and yacht.

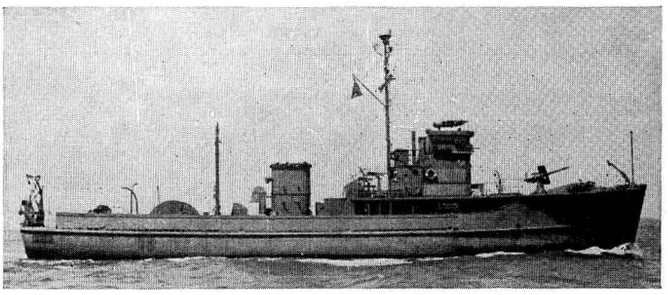
COASTAL MINESWEEPERS

2 New Construction

Ex-U.S.S. **MSC 297** Ex-U.S.S. **MSC 301**

Displacement:	362 tons *full load*
Dimensions:	145 (*o.a.*) × 27 × 8½ feet

Notes
Contracts awarded to Petersen Builders Inc., Sturgeon Bay, Wisc., and Tacoma Boatbuilding Co., Tacoma, Wash., respectively in June and Nov. 1961, for transfer to Thailand under MAP on completion of building in U.S.



LADYA — *Royal Thai Navy, Official*

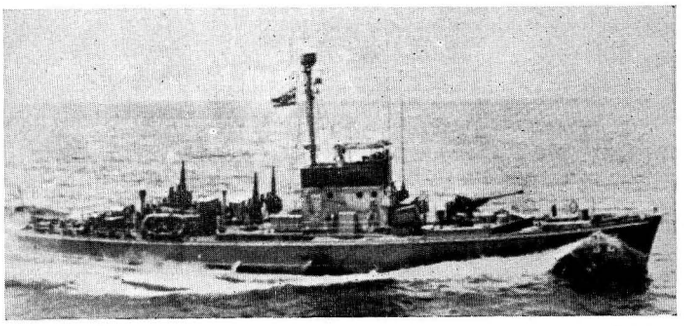
3 Ex-U.S. YMS Type

BANGKEO (*ex-YMS* 334) **LADYA** (*ex-YMS* 138) **TA DINDENG** (*ex-YMS* 21)

Displacement:	300 tons *standard* (325 tons *full load*)
Dimensions:	136 × 24½ × 6 feet
Guns:	1—3 inch, 2—20 mm. AA.
A/S weapons:	D.C.T.
Machinery:	G.M. diesel. 2 shafts. B.H.P.: 1,000=15 kts.
Oil fuel:	20 tons
Radius:	2,500 miles at 9 kts.
Complement:	51

Notes
Former United States motor minesweepers of the *YMS* type. Hull is of wooden construction.

PATROL BOATS (*Submarine Chasers*)



SC 32 — 1959, *Royal Thai Navy, Official*

3 Ex-U.S. SC Type

SC 31 (*ex-SC* 1632) **SC 32** (*ex-SC* 1633) **SC 33** (*ex-SC* 1634)

Displacement:	110 tons *light* (125 tons *full load*)
Dimensions:	111 × 17 × 6 feet
Guns:	1—40 mm., 3—20 mm.
A/S weapons:	Depth Charges, Mousetrap
Machinery:	High-speed diesel=18 kts.

Notes
Former United States submarine chasers of the SC type. Of wooden hull construction. Built by the South Coast Co., Newport Reach, California, in 1954-55. Transferred to Thailand from the United States under the Mutual Defense Assistance Program.

(A Thai anti-submarine vessel was damaged by explosion and fire at Bangkok on 26 Dec. 1961 and was beached to save it from sinking. She was one which had been transferred by the U.S.A. under MAP).

COASTGUARD VESSELS



CGC 14 *Royal Thai Navy, Official*

4 Ex-U.S. CGC Type

CGC 13 **CGC 14** **CGC 15** **CGC 16**

Displacement:	95 tons
Dimensions:	95 × 20¼ × 5 feet
Machinery:	4 diesels. 2 shafts. B.H.P.: 2,200=21 kts.
Radius:	1,500 miles cruising range
Complement:	15

Notes

New coast guard cutters transferred from the United States to Thailand in 1954. Similar to the 12 new C.G.C. built for U.S.C.G. Built by U.S. Coast Guard Yard, Curtis Bay, Maryland in 1953. Cost $475,000 each



CGC 12 1959, *Royal Thai Navy, Official*

2 Ex-U.S. YP Type

CGC 11 **CGC 12**

Displacement:	44·5 tons
Dimensions:	83½ × 16 × 4½ feet
Guns:	1—20 mm. AA.
Machinery:	2 Viking petrol engines. B.H.P.: 1,300=20·5 kts.

Notes

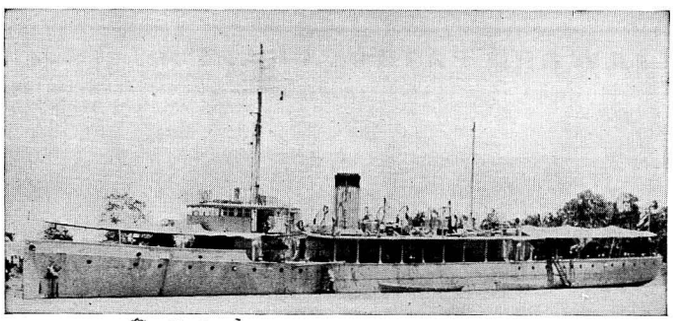
Former U.S. Coast Guard cutters of the YP class. Of wooden hulled construction.

Recent Disposals

Of the six motor patrol boats of the coastal type, *MPB* 2, *MPB* 4, *MPB* 5 and *MPB* 6 were removed from the effective list in January 1961, it is officially stated. *MPB* 1 and *MPB* 3 were removed from the effective list in 1956.

Of the five motor torpedo boats (coastal motor boats) of the British Thornycroft type *CMB* 8, *CMB* 10 and *CMB* 12 were removed from the effective list in 1956, and *CMB* 9 and *CMB* 11 were stricken off in 1960.

TRAINING SHIP (*Ex-Fleet Minesweeper*)



CHOW PRAYA 1956, *Royal Thai Navy, Officia*

1 Ex-British "Racecourse" Class

CHOW PRAYA (*ex-H.M.S. Havant*)

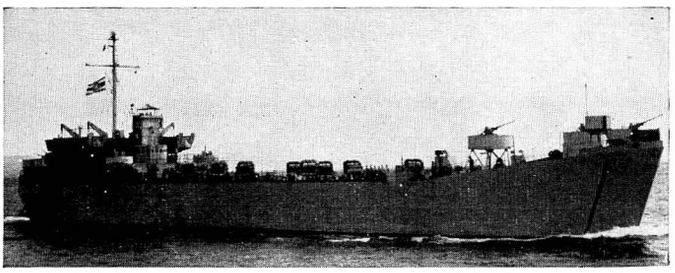
Displacement:	680 tons *standard* (840 tons *full load*)
Dimensions:	220 × 28½ × 7½ feet
Guns:	2—57 mm. AA., 1—40 mm. AA.
Machinery:	Vertical triple expansion. 2 shafts. I.H.P.: 2,200=16 kts.
Boilers:	Yarrow, converted to burn oil
Oil fuel:	160 tons
Radius:	1,750 miles at 15 kts.
Complement:	65

Notes

Former British fleet minesweeper of the "Racecourse" class. Built by Eltringhams, South Shields. Launched in Nov. 1918. Purchased in 1923 and reconstructed by Messrs. John I. Thornycroft & Co. Ltd., Southampton. Guns are interchangeable for training.

This ship is now very old and worn out. She is likely to be discarded in the near future.

LANDING SHIPS



ANGTON 1956, *Royal Thai Navy, Official*

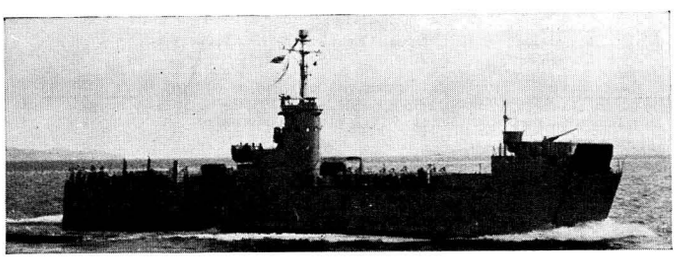
2 Ex-U.S. LST Type

ANGTON (ex-U.S. *LST*) Ex-U.S.S. **LINCOLN COUNTY**, *LST* 898

Displacement:	1,625 tons *standard* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 feet
Guns:	6—40 mm., 4—20 mm.
Machinery:	General Motors deisels. 2 shafts. B.H.P.: 1,700=11 kts.
Complement:	80

Notes

Angton is a former United States tank landing ship of the LCT type employed as a transport. *Lincoln County* was transferred to Thailand in 1962; she was built by Dravo Corp., Neville Island, Pittsburg, Pa., laid down on 15 Oct. 1944, launched on 25 Nov. 1944 and completed on 29 Dec. 1944.



KUT 1956, *Royal Thai Navy Official*

3 Ex-U.S. LSM Type

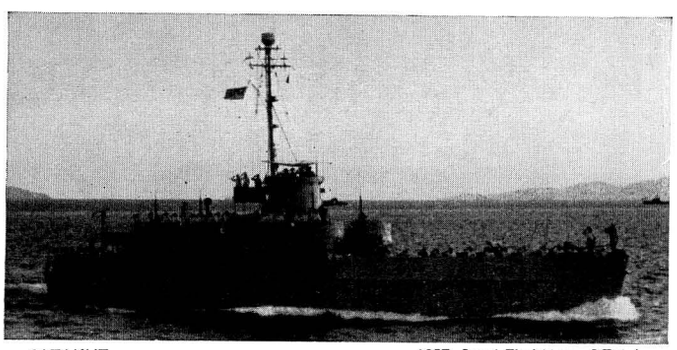
KUT (ex-*LSM*) **PHAI** (ex-*LSM*) **KRAM** (ex-U.S.S. LSM 469)

Displacement:	743 tons *standard* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8½ feet
Guns:	2—40 mm. AA.
Machinery:	Diesel direct drive. 2 shafts. B.H.P.: 2,800=12·5 kts.
Complement:	55

Notes

Former United States landing craft of the LCM, later LSM (Medium Landing Ship), type. *LSM* 469 was transferred to Thailand under MAP at Seattle, Wash. in 1962; she was built by Brown Shipbuilding Co., Houston, Tex., laid down on 27 Jan. 1945, launched on 17 Feb. 1945, and completed on 17 Mar. 1945.

LANDING CRAFT



SATAKUT 1957, *Royal Thai Navy Official*

2 Ex-U.S. LCI Type

PRAP (ex-*LCI*) **SATAKUT** (ex-*LCI*)

Displacement:	230 tons *standard* (387 tons *full load*)
Dimensions:	157 × 23 × 6 feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,320=14 kts
Complement:	54

Notes

Former United States landing craft of the LCI (Infantry Landing Craft) type. Photograph of *Prap* in the 1957-58 and earlier editions.

Ex- U.S. LCT (6) Type

ADANG **MATAPHON** **RAVI**
KOLAM **PETRA** **TALIBONG**

Displacement:	134 tons *standard* (279 tons *full load*)
Dimensions:	112 × 32 × 4 feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. 3 shafts. B.H.P.: 675=10 kts
Complement:	37

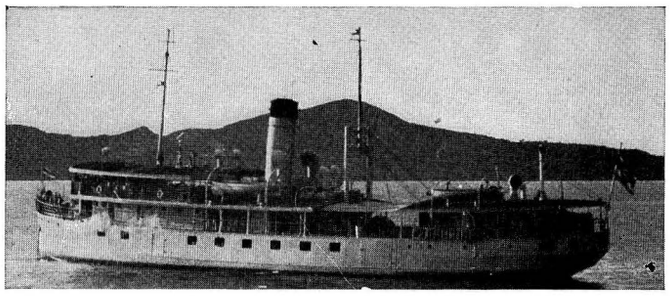
Notes

Former United States tank landing craft of the LCT(6) type. Employed as transport ferries

Photograph Notes

A photograph of *Mataphon* appears in the 1950-51 to 1961-62 editions.

TRANSPORTS



SURIYA — 1956, *Royal Thai Navy, Official*

SURIYA (*ex-Thalang*)

Displacement:	920 tons *standard*
Dimensions:	175×34⅜×16½ feet
Speed:	10 kts. (approx.)
Complement:	76

Notes
Mercantile type converted. Used for various purposes including occasional surveying duties.

SICHANG

Displacement:	815 tons *standard*
Dimensions:	160×28×16 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 550=16 kts.
Complement:	30

Notes
Built by Harima Co., Japan. *Sichang* was launched on 10 Nov. 1937. Completed in Jan. 1938. A photograph of this ship appears in the 1953-54 to 1959-60 editions. Sister ship *Pangan* was deleted from the list in 1962, it is officially stated.

Recent Disposals
The transport *Chang* (ex-*Vides Kichkar*, ex-*Buk*, ex-*Lycidas*) was officially removed from the list in 1962, *Kled Keo*, *Chuang*, *Kram* and *Samed* were removed in Jan. 1961, and *Chart Narwee*, *Kiat Narwee* and *Winae Narwee* in 1958.

OILERS

CHULA

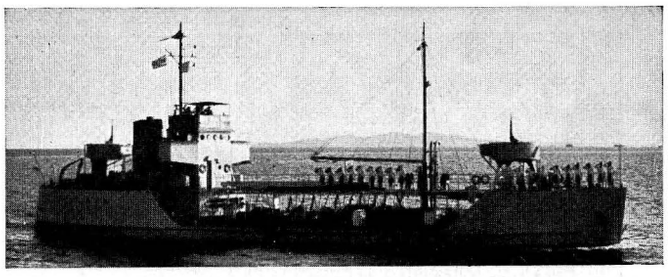
Displacement:	2,395 tons *standard*
Dimensions:	328×43½×25 feet
Machinery:	Steam turbine

Notes
This tanker and *Matra* (see below) were acquired for naval oiling and supply duties.

MATRA

Displacement:	4,744 tons
Dimensions:	328×45½×20 feet
Machinery:	Steam turbine

Notes
Employed as a frieghting and fleet replenishment tanker and supply ship.



SAMUI — 1956, *Royal Thai Navy, Official*

SAMUI

Displacement:	422 tons *standard*
Dimensions:	174½×32×15 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 600=8 kts.
Complement:	49

Notes
Small tanker of the ex-YOG type. Employed as a fleet auxiliary attendant oiler.

PRONG

Displacement:	150 tons *standard*
Dimensions:	95×18×7½ feet
Machinery:	Diesel. B.H.P.: 150=10 kts
Complement:	14

Notes
Launched in 1938. Employed as a small auxiliary naval servicing tanker.

WATER CARRIER

JARN

Displacement:	355 tons *standard*
Dimensions:	139½×24×— feet
Machinery:	Diesel. Speed=6 kts.

Notes
A photograph of this ship appears in the 1956-57 to 1959-60 editions.

TUGS

SAMAESAN (*ex-Empire Vincent*)

Displacement:	503 tons (*full load*)
Dimensions:	105×26½×13 feet
Machinery:	Triple expansion. I.H.P.: 850=10·5 kts.
Complement:	27

Notes
Built by Cochrane & Sons Ltd., Selby, Yorks., England. Photograph in the 1957-58 and earlier editions.

RANG KWIEN

Displacement:	586 tons *standard*
Dimensions:	162½×31½×13 feet
Machinery:	Triple expansion steam engine. Speed=10 kts.

Notes
There are also the small tugs **KLUENG BADAN** and **MARN VICHAI,** Displacement: 63 tons *standard*; Dimensions: 64⅜×16½×6 feet; Machinery: Diesel. Speed=8 kts.; and **RAD**, Displacement: 52 tons *standard*; Dimensions: 60¾×17½×5 feet; Machinery: Diesel. Speed=6 kts.

TOGO

It is reported that Togo, which proclaimed independence on 27 April 1960, has already acquired 3 motor patrol boats of steel construction, all about 100 feet in length; and 1 river gunboat, steel hulled, 95 feet in length; and may receive in the near future 1 patrol vessel of steel construction 130 feet in length.

TUNISIA

CORVETTE (Rated as *Aviso*)



DUSTUR — *Added* 1961

1 Ex-French Early "Chevreuil" Class

DUSTUR (*ex-Chevreuil*)

Displacement:	647 tons *standard* (920 tons *full load*)
Dimensions:	257×28½×10½ feet
Guns:	1—4·1 inch, 1—40 mm., 6—20 mm.
A/S weapons:	4 D.C.T., 2 D.C. racks
Machinery:	Sulzer diesels. S shafts. B.H.P.: 4,000=20 kts.
Oil fuel:	100 tons
Radius:	10,000 miles at 9 kts. 5,200 miles at 15 kts.
Complement:	100 (8 officers, 92 men)

Notes
Chevreuil was built under the 1935 programme at Lorient Dockyard. She was laid down in Apr. 1937, launched on 17 June 1939 and completed in Oct. 1939. Transferred from the French Navy to the Tunisian Navy on 13 Oct. 1959 and renamed, Pennant No. F735. Sister ship of *El Lahiq* (ex-*Chamois*) in the Moroccan Navy.

SEAWARD PATROL CRAFT (*Vedette de Port*)



ISTIQLAL — Ex-*VC* 11

1 Ex-French VC Type

ISTIQLAL (ex-*VC* 11, *P* 761)

Displacement:	75 tons *standard* (82 tons *full load*)
Dimensions:	104½×15½×5½
Guns:	2—20 mm. AA.
Machinery:	2 Mercedes-Benz diesels. 2 shafts B.H.: 2,700=28 kts
Radius:	1,500 miles at 15 kts.
Complement:	15

Notes
Seaward defence motor launch of a new type. Completed in 1958. Built by Lurssens in Germany. Transferred from the French Navy to the Tunisian Navy on 22 Sep. 1959 Employed off the North African coast.

TURKEY

Administration

Commander-in-Chief, Turkish Naval Forces:
Koramiral Necdet Uran

Chief of Staff, Turkish Naval Forces:
Tuğamiral Albay Turgut Özel

Commander of the Turkish Fleet:
Tümamiral Haydar Olcaynoyan

Naval Attaché, London:
Captain (Kur. Albay) Erşed Erdem

Personnel

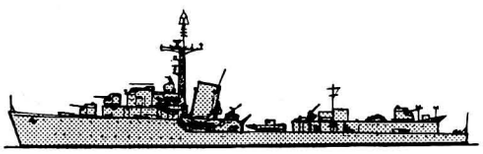
1962: 1,400 officers and 31,000 ratings

Mercantile Marine

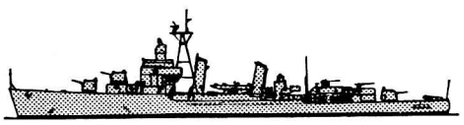
Lloyd's Register of Shipping:
292 vessels of 668,085 tons *gross*

Silhouettes

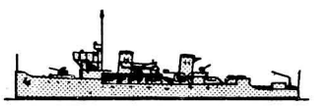
Scale: 150 ft. = 1 inch.



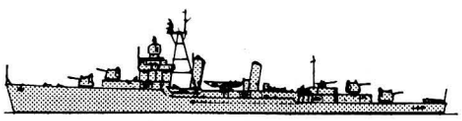
ALP ARSLAN *Class*



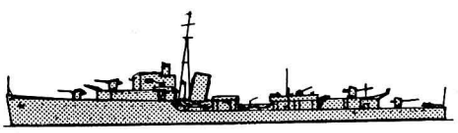
GELIBOLU, GIRESUN



ÇANDARLI *Class*



GAZIANTEP, GEMLIK

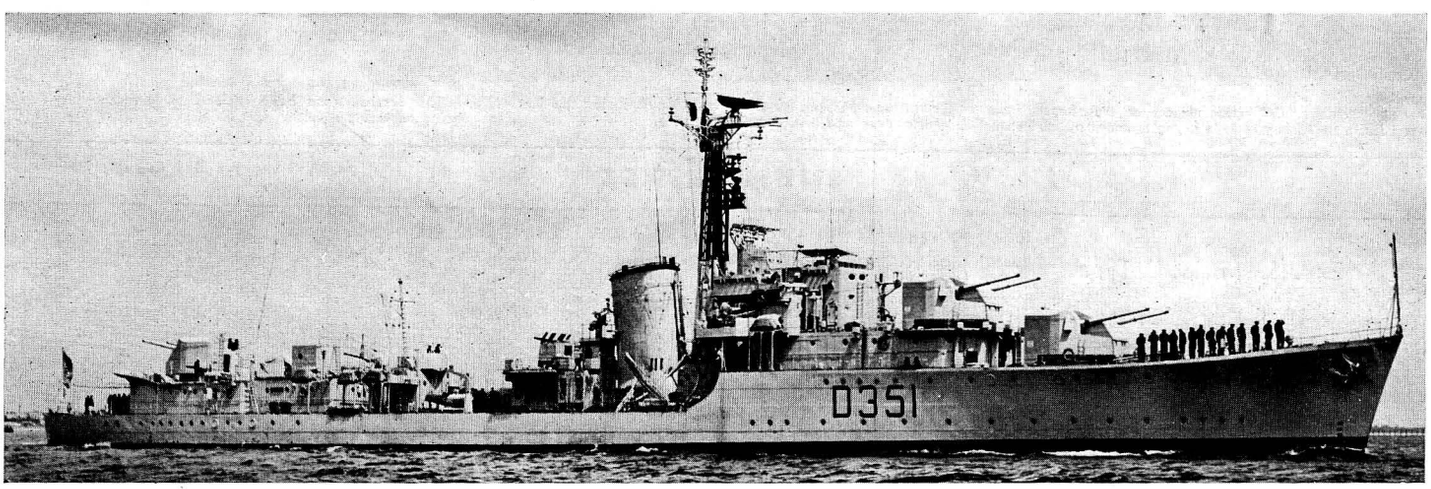


GAYRET



ALANYA *Class*

DESTROYERS



PIYALE PASA

1959, *Wright & Logan*

Ex-British "Milne" Type
4 "Alp Arslan" Class

ALP ARSLAN (ex-H.M.S. *Milne*)
KILIÇ ALI PASA (ex-H.M.S. *Matchless*)
MARESAL FEVZI ÇAKMAK (ex-H.M.S. *Marne*)
PIYALE PASA (ex-H.M.S. *Meteor*)

Displacement:	2,000 to 2,015 tons *standard* (2,840 tons *full load*)
Dimensions:	354 (*pp.*), 362½ (*o.a.*) × 36¾ × 10 (*mean*), 16¼ (*max.*) feet
Guns:	6—4·7 inch, 6—40 mm. Bofors AA. (one twin, four singles), 2—3 pdr. (saluting)
Tubes:	4—21 inch
A/S weapons:	1 triple barrelled depth charge mortar (Squid)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 48,000=36 kts. (designed)
Boilers:	2 Admiralty 3-drum type
Oil fuel:	500 tons
Radius:	1,700 miles at 20 kts.
Complement:	240

General Notes

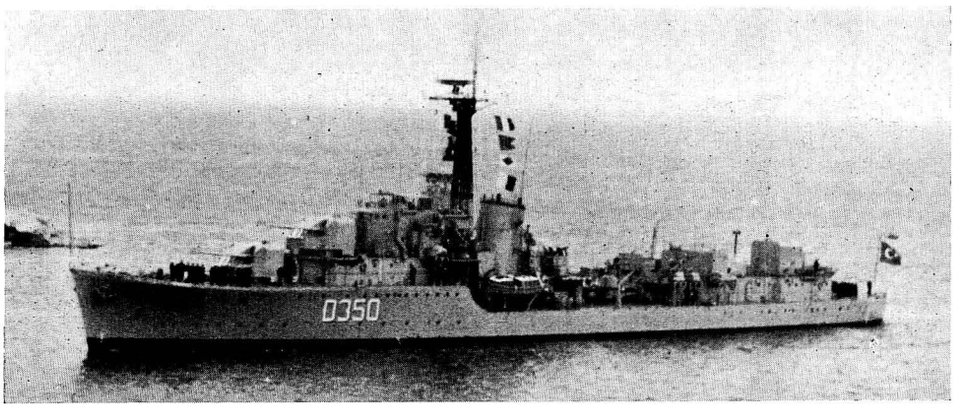
Former British "Milne" class destroyers, one of the most successful and handsome types which ever served in the Royal Navy. The first British destroyers to have three power worked turrets. Transferred to Turkey under an agreement signed in Ankara on 16 Aug. 1957. Nominally handed over to the Turkish Navy at Portsmouth on 29 June 1959 after refit in British shipyards, where the after tubes and secondary armament were removed and replaced by deckhouse, Squid and Bofors. Renamed after famous generals and 16-18th century admirals.

Photograph Notes

A photograph of *Alp Arslan* appears in the 1959-60 to 1961-62 editions.

Disposal of older Destroyers

Demirhisar, *Muavenet* and *Sultanhisar* were officially discarded in 1960, *Tinaztepe* and *Zafer* were discarded in 1957.



KILIÇ ALI PASA

1962, *A. and J. Pavia*

No.	Name	Builders	Laid down	Launched	Completed
D 349	*Fevzi Çakmak*	Vickers Armstrongs, Ltd. (Tyne)	23 Oct. 1939	30 Oct. 1940	2 Dec. 1941
D 350	*Kiliç Ali Pasa*	Alex. Stephen & Sons Ltd., Govan	14 Sep. 1940	4 Sep. 1941	26 Feb. 1942
D 351	*Piyale Pasa*	Alex. Stephen & Sons Ltd., Govan	14 Sep. 1940	3 Nov. 1941	12 Aug. 1942
D 348	*Alp Arslan*	Scotts S. B. & Eng. Co. Ltd., Greenock	24 Jan. 1940	30 Dec. 1941	6 Aug. 1942

Battle Cruiser Notes

The very old Turkish (former German) battle cruiser *Yavuz* (ex-*Goeben*) was decommissioned in 1960. See full particulars, photograph, plan and elevation drawings, and silhouette in the 1959-60 and earlier editions.

R

Destroyers—*continued*

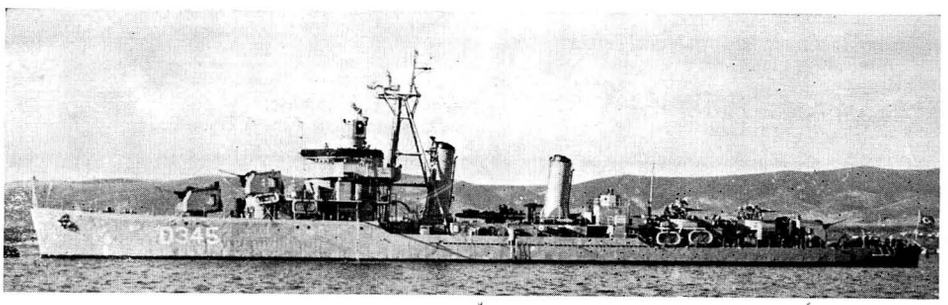
Ex-U.S. "Gleaves" Type
4 "Gelibolu" Class

GAZIANTEP (*ex-Lansdowne*) **GEMLIK** (*ex-Lardner*)
GELIBOLU (*ex-Buchanan*) **GIRESUN** (*ex-McCalla*)

Displacement:	1,630 to 1,700 tons *standard* (2,800 tons *full load*)
Dimensions:	341 (*w.l.*), 348½ (*o.a.*) × 36 × 10 (*light*), 18 (*max.*) feet
Guns:	3—5 inch, 38 cal., 4—3 inch AA.
Tubes:	5—21 inch
A/S weapons:	2 hedgehogs, 4 D.C.T.
Machinery	General Electric geared turbines 2 shafts. S.H.P.: 50,000=37 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	600 tons
Radius:	5,000 miles at 15 kts.
Complement:	250

Notes

Former American "Gleaves" class destroyers. *Gelibolu* and *Giresun* were transferred to Turkey from the U.S. Navy on 29 Apr. 1949. *Gaziantep* and *Gemlik* were transferred in 1950. All four were modified to meet up-to-date requirements in the United States during 1957-58, when they were fitted with tripod foremast and raised bridge and their No. 3 5-inch gun, Bofors and Oerlikon were removed and replaced by four 3 inch AA. guns.



GIRESUN (as refitted with tripod foremast, raised bridge and modified armament) 1959, *Turkish Navy, Official*

No.	*Name*	*Builders*	*Name*	*Laid down*	*Launched*	*Completed*
D 344	*Gaziantep*	Federal S.B. & D.D. Co., Port Newark	*Gaziantep*	July 1941	20 Feb. 1942	29 Apr. 1942
D 346	*Gelibolu*	Federal S.B. & D.D. Co., Port Newark	*Gelibolu*	11 Feb. 1941	22 Nov. 1941	21 Mar. 1942
D 347	*Gemlik*	Federal S.B. & D.D. Co., Port Newark	*Gemlik*	July 1941	20 Mar. 1942	13 May 1942
D 345	*Giresun*	Federal S.B. & D.D. Co., Port Newark	*Giresun*	July 1941	20 Mar. 1942	27 May 1942

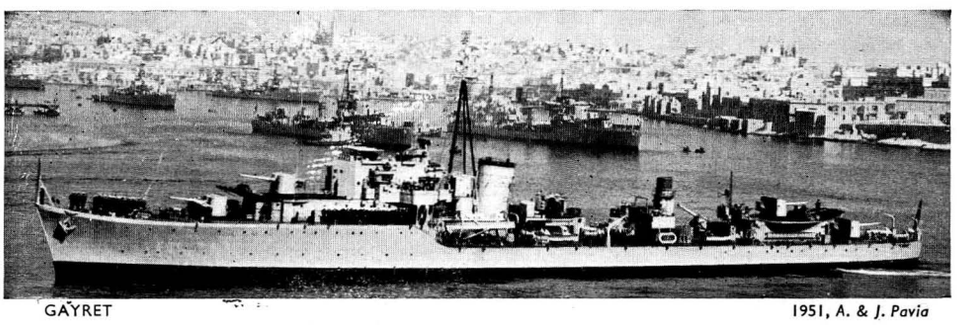
Ex-British "O" Class

GAYRET (*ex-H.M.S. Oribi, ex-Observer*)

Pennant No.:	D 341
Builders:	Fairfield S.B. & Eng. Co. Ltd.
Laid down:	15 Jan. 1940
Launched:	14 Jan. 1941
Completed:	5 July 1941
Displacement:	1,540 tons *standard* (2,290 tons *full load*)
Dimensions:	338½ (*pp.*), 345 (*o.a.*) × 35 × 9 feet
Guns:	4—4·7 inch, 1—4 inch, 4—2 pdr. pompoms, 4—20 mm. AA.
Tubes:	8—21 inch
A/S weapons:	4 D.C.T. on "X" deck
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts.
Boilers:	2, of 3-drum type
Oil fuel:	430 tons
Radius:	1,700 miles at 20 kts.
Complement:	220

General Notes

Former British "O" class destroyer transferred from Great Britain to Turkey in 1946 in replacement of the former *Gayret* requisitioned for the British Navy during the Second World War and lost during hostilities.



GAYRET 1951, *A. & J. Pavia*

Reclassification Notes

This destroyer has been reclassified as an auxiliary and is being used as a Headquarters Ship.

SUBMARINES

Ex-U.S. "Balao" Type
10 "Gur" Class

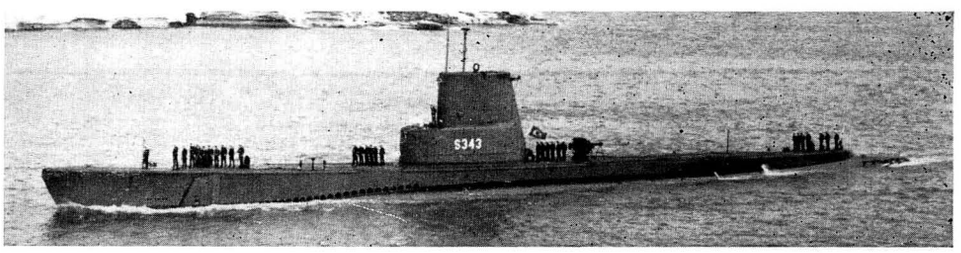
BIRINCI INÖNÜ (ex-U.S.S. *Brill*, SS 330)
CANAKKALE (ex-U.S.S. *Bumper*, SS 333)
CERBE (ex-U.S.S. *Hammerhead*, SS 364)
GÜR (ex-U.S.S. *Chub*, ex-*Bonat*, SS 329)
HIZIR REIS (ex-U.S.S. *Mero*, SS 378)
IKINCI INÖNÜ (ex-U.S.S. *Blueback*, SS 326)
PIRI REIS (ex-U.S.S. *Mapiro*, SS 376)
PREVEZE (ex-U.S.S. *Guitarro*, SS 363)
SAKARYA (ex-U.S.S. *Boarfish*, SS 327)
TURGUT REIS (ex-U.S.S. *Bergall*, SS 320)

Displacement:	1,526 tons (*standard*), 1,829 tons (*surface*), 2,424 tons (*submerged*)
Dimensions:	311¾ × 27½ × 13¾ feet
Guns:	2—5 inch, 25 cal., 2—40 mm., 4 M.G.
Tubes:	10—21 inch (6 bow, 4 stern), 24 torpedoes carried
Machinery:	General Motors 2-stroke diesels. B.H.P.: 6,500=19·5 kts. (*surface*), and electric motors, 9 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	78 to 85

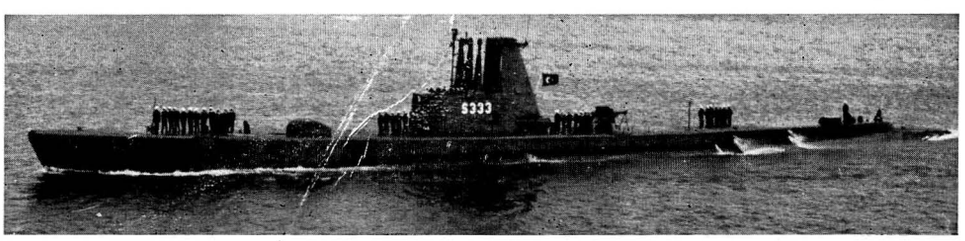
Nato Pen. No.	*Turk Pen. No.*	*Name*	*Launched*	*Completed*
S 330		*Birinii Inönü*	25 June 1944	26 Oct. 1944
S 333	21	*Canakkale*	6 Aug. 1944	9 Dec. 1944
S 341	03	*Cerbe*	27 Oct. 1943	1 Mar. 1944
S 334	20	*Gur*	7 May 1944	28 Aug. 1944
S 344		*Hizir Reis*	17 Jan. 1945	17 Aug. 1945
S 331	17	*Ikinci Inönü*	21 May 1944	23 Sept. 1944
S 343		*Piri Reis*	9 Nov. 1944	30 Apr. 1945
S 340	22	*Preveze*	26 Sept. 1943	16 Jan. 1944
S 332		*Sakarya*	18 June 1944	21 Oct. 1944
S 342		*Turgut Reis*	16 Feb. 1944	12 June 1944

Notes

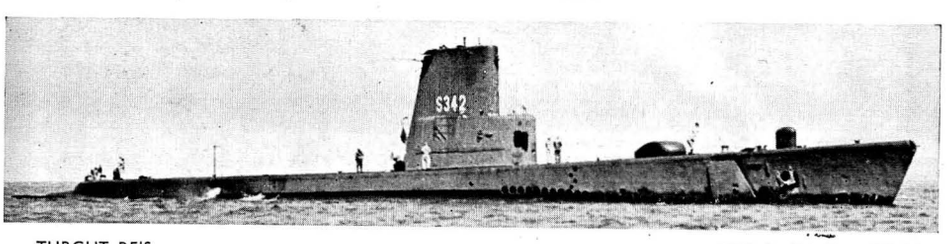
Former American submarines of the "Balao" type acquired by Turkey in 1948-60. All built by the Electric Boat Company, Groton, Connecticut, except *Cerbe*, *Hizirreis*, *Pirireis* and *Preveze*, by Manitowoc Shipbuilding Co. Of all-welded construction. They have a high standard of accommodation including separate messing and sleeping compartments. *Canakkale*, officially transferred in 1950, was semi-streamlined before delivery. *Dumlupinar* (ex-*Blower*) was lost in the Dardanelles on 4 Apr. 1953. *Preveze* semi-streamlined and *Cerbe*, fully streamlined, were transferred on 7 Aug. 1954 and Oct. 1954, respectively. *Cerbe* and *Preveze* are "guppy snorkel" conversions. Their loan was extended for five years in 1959. *Sakarya* was overhauled by the Electric Boat Division of the General Dynamics Corporation (formerly known as the Electric Boat Company), Groton, Connecticut, in 1957. *Turgut Reis* was transferred in Oct. 1958 and *Hizir Reis* and *Piri Reis* were transferred on 20 Apr. 1960 and 18 Mar. 1960 at San Francisco Naval Shipyard.



PIRI REIS (streamlined) 1962, *A. and J. Pavia*



CANAKKALE (semi-streamlined) 1962, *A. and J. Pavia*



TURGUT REIS 1959, *Turkish Navy, Official*

Photograph Notes

Photographs of *Preveze* in the 1959-60 to 1961-62 editions, *Gür* in the 1958-59 to 1961-62 editions, and *Birinci Inönü* in the 1953-54 to 1961-62 editions.

Disposals of older Submarines

Burak Reis, *Murat Reis* and *Oruç Reis*, and *Saldiray* and *Yildiray*, were discarded in 1957.

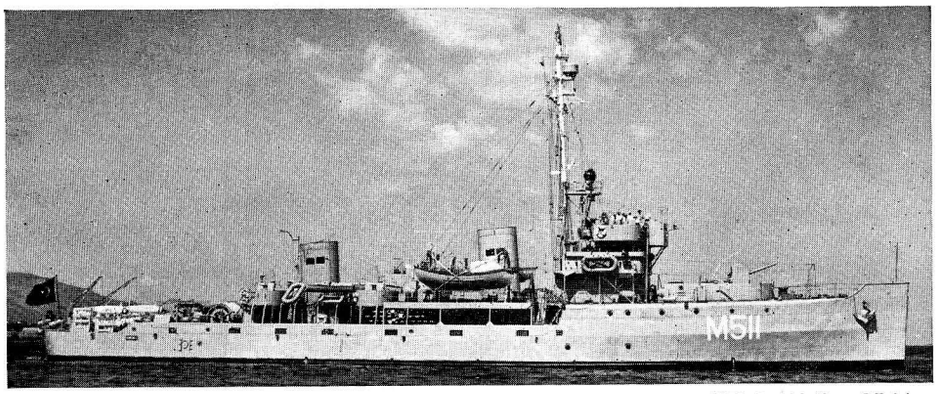
ESCORT MINESWEEPERS

Ex-U.S. "Auk" Type
8 "Candarli" Class

ÇANDARLI (*ex-Frolic*, 22 July 1943)
ÇARDAK (*ex-Tourmaline, ex-Usage*, 4 Oct. 1942)
ÇARSAMBA (*ex-Tattoo*, 27 Jan. 1943)
ÇESME (*ex-Elfreda*, 25 Jan. 1943)

EDINCIK (*ex-Grecian*, 1943)
EDREMIT (*ex-Chance*, 28 Nov. 1942)
ERDEMLI (*ex-Catharine*, 7 Sep. 1943)
EREGLI (*ex-Pique, ex-Çelerity*, 26 Oct. 1942

Displacement:	1,010 tons *standard* (1,250 tons *full load*)
Dimensions:	215 (*w.l.*), 221 (*o.a.*) × 32 × 10¾ (*max.*) feet
Guns:	1—3 inch, 6—40 mm.
A/S weapons:	4 D.C.T.
Machinery:	Diesel, with electric drive. 2 shafts B.H.P.: 3,500=18 kts.
Complement:	105



EREGLI — 1959, *Turkish Navy, Official*

Notes

Former American steel hulled fleet minesweepers of the "Auk" type. Transferred to Great Britain while still under construction. Served in the Royal Navy. Retransferred to Turkey in Apr. 1947. Built by Associated Shipbuilders, Cleveland (*Çarsanba, Çesme* and *Edincik*); General Engineering & D D. Co., Alameda (*Çandarli* and *Erdemli*) and Gulf Shipbuilding Corporation, Houston (*Çardak, Edremit* and *Eregli*) Launch dates above. Named after Turkish ports.

Reclassification Notes

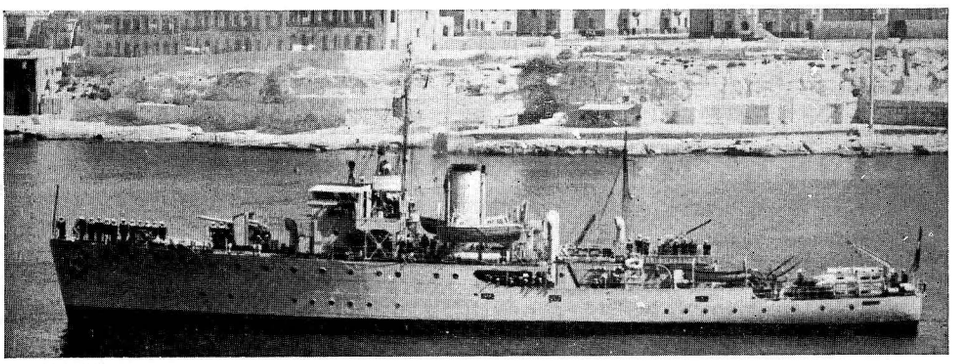
Cesme Cardak and Edremit are Headquarter Ships, *Eregli* is a Logistic Support Ship, *Edincik* and *Erdemli* are Training Ships, and *Carsamba* and *Candarli* are Hydrographic Ships.

Ex-Australian "Bathurst" Type
5 "Alanya" Class

ALANYA (*ex-Broome*)
AMASRA (*ex-Pirie*)
ANTALYA (*ex-Geraldton*)
AYANCIK (*ex-Launceston*
AYVALIK (*ex-Gawler*)

Displacement:	790 tons *standard* (1,025 tons *full load*)
Dimensions:	162 (*pp.*), 186 (*o.a.*) × 31 × 8½ feet
Guns:	1—4 inch, 1—40 mm., 4—20 mm AA.
A/S weapons:	2 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P. 1,800=15·5 kts.
Oil fuel:	170 tons
Radius:	4,500 miles at 10 kts.
Complement:	85

Name	*Builders*	*Launched*
Alanya	Evans Deakin, Brisbane	6 Oct. 1941
Amasra	Broken Hill, Whyalla	Dec. 1941
Antalya	Poole & Steel, Sydney	16 Aug. 1941
Ayancik	Evans Deakin, Brisbane	30 June 1941
Ayvalik	Broken Hill, Whyalla	Oct. 1941



ALANYA — 1951, *A. & J. Pavia*

Notes

All Australian built, 1940-42. Served in the Royal Navy. Acquired from Great Britain in Aug. 1946. Named after Turkish ports. Taller mainmast in *Ayancik* and *Ayvalik*.

Reclassification Notes

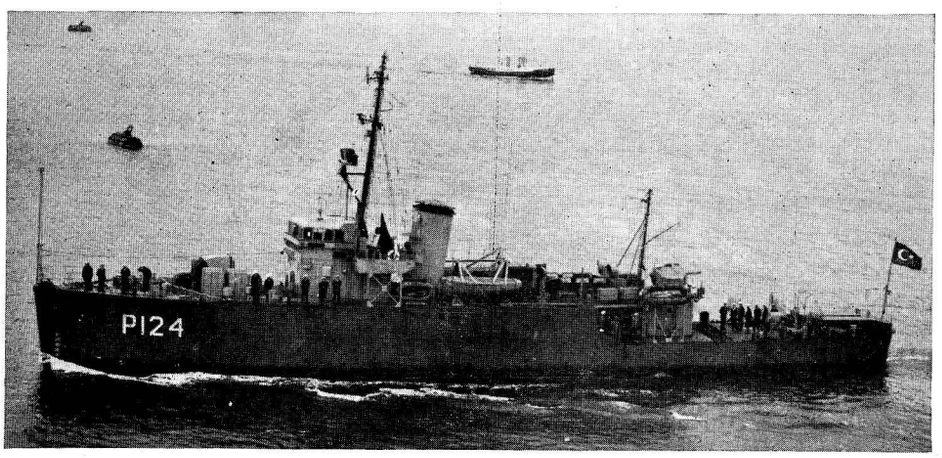
All this class are now Logistic Support Ships. Minesweepers in company have all been allotted to the Auxiliary Service.

COASTAL ESCORTS (ex-Fleet-Minesweepers)

Ex-Canadian "Bangor" Type
10 "Bafra" Class

BAFRA (ex-H.M.C.S. *Nipigon, FSE* 188)
BANDIRMA (ex-H.M.C.S. *Kenora, FSE* 191)
BARTIN (ex-H.M.C.S. *Kentville, FSE* 182)
BEYKOZ (ex-H.M.C.S. *Blairmore, FSE* 193)
BEYLERBEYI (ex-H.M.C.S. *Mahone, FSE* 192)
BIGA (ex-H.M.C.S. *Medicine Hat, FSE* 197)
BODRUM (ex-H.M.C.S. *Fort William, FSE* 195)
BORNOVA (ex-H.M.C.S. *Westmount, FSE* 187)
BOZCAADA (ex-H.M.C.S. *Swift Current, FSE* 185)
BUYUKDERE (ex-H.M.C.S. *Sarnia, FSE* 190)

Displacement:	672 tons *standard* (900 tons *full load*)
Dimensions:	171½ (*pp.*), 180 (*o.a.*) × 28½ × 12½ (*max.*) feet
Guns:	1—40 mm. AA., 2—20 mm. AA., 4 M.G.
A/S weapons:	1 Hedgehog, 4 D.C T.
Machinery:	Triple expansion. 2 shafts. I.H.P. 2,400=16·5 kts.
Boilers:	2 Admiralty 3-drum type
Complement:	70



BIGA (showing Nato No.) — 1959, *A. & J. Pavia*

Notes

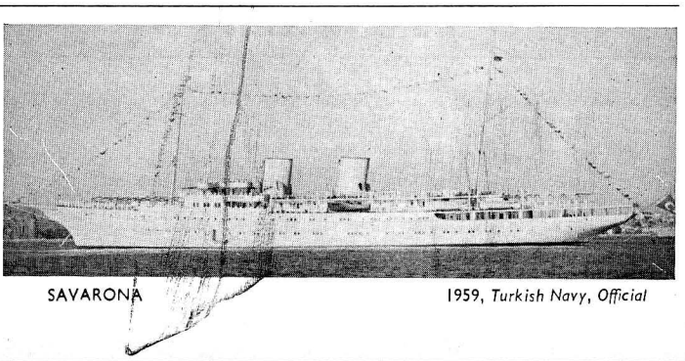
Former Canadian fleet minesweepers, redesignated coastal escorts in 1953, and transferred to the Turkish Navy at the end of 1957. *Bafra, Bandirma, Bartin, Biga* and *Bodrum* were actually transferred on 29 Nov. 1957 at Point Edward Naval Base, Sydney, Nova Scotia. *Beykoz, Beylerbeyi, Bornova, Bozcaada* and *Buyukdere* were turned over from Canada to Turkey early in 1958. All sailed from Sydney, N.S. to Turkey on 19 May 1958.

No.	*Name*	*Launched*	*No.*	*Name*	*Launched*	*No.*	*Name*	*Launched*
P 121	*Bafra*	30 Sep. 1940	P 122	*Beykoz*	14 May 1942	P 125	*Bodrum*	30 Dec. 1941
P 129	*Bandirma*	20 Dec. 1941	P 123	*Beylerbeyi*	15 Nov. 1940	P 126	*Bornova*	14 Mar. 1942
P 130	*Bartin*	18 Apr. 1942	P 124	*Biga*	24 June 1941	P 127	*Bozcaada*	29 May 1941
						P 128	*Buyukdere*	21 Jan. 1942

TRAINING SHIP

SAVARONA

Displacement:	5,710 tons
Dimensions:	349½ (*w.l.*), 408½ (*o.a.*) × 53 × 20½ (*mean*) feet
Guns:	4—3 inch, 2—40 mm. AA., 2—20 mm. AA.
Machinery:	6 geared turbines 2 shafts. S.H.P.: 10,750=21 kts. (about 18 kts. now)
Boilers:	4 watertube, 400 lb. working pressure
Oil fuel:	2,100 tons
Radius:	9,000 miles at 15 kts.
Complement:	132+81 midshipmen

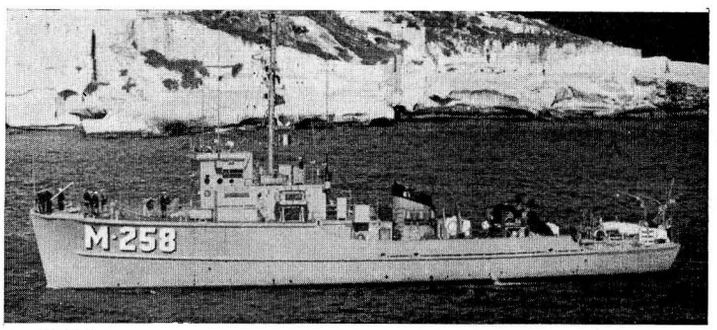


SAVARONA — 1959, *Turkish Navy, Official*

Notes

Built by Blohm & Voss, Hamburg. Launched on 28 Feb. 1931. Formerly probably the most sumptuously fitted yacht afloat. Equipment includes Sperry gyro-stabilisers. Reconstructed and converted into a training ship for midshipmen in 1952, the saloons and dining rooms being adapted as classrooms, workshops and libraries for 120 midshipmen.

COASTAL MINESWEEPERS



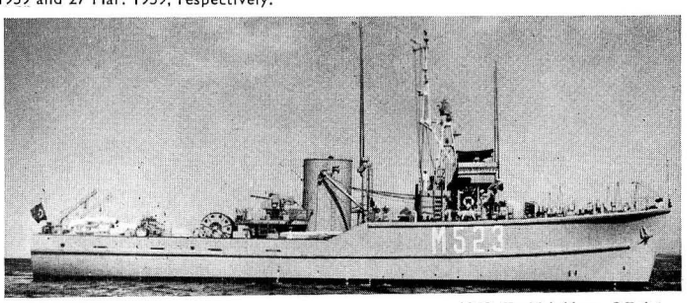
SINOP — *Added 1961, A. & J. Pavia*

4 Ex-U.S. MSC Type. "Bluebird" Class

SAM SUN M 257 (ex-U.S.S. *MSC 268*) — **SINOP** M 258 (ex-U.S.S. *MSC 270*)
SEDDUL BAHIR M 260 (ex-U.S.S. *MSC 272*) — **SURMENE** M 259 (exU.S.S. *MSC 271*)

Displacement:	320 tons *standard* (370 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 28 × 9 feet
Guns:	2—20 mm. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,200 = 14 kts.
Oil fuel:	25 tons
Radius:	2,500 miles at 10 kts.
Complement:	38 (4 officers, 34 men)

Notes
Former United States coastal minesweepers of the MSC type or "Bluebird" class constructed of wood and non-magnetic materials. Transferred to Turkey under the Mutual Defense Assistance Program at Seattle, Washington, on 30 Sep. 1958, 9 July 1959, 30 Jan. 1959 and 27 Mar. 1959, respectively.



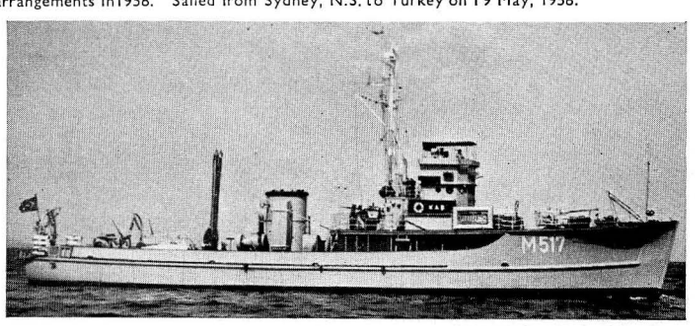
TERNE — *1959, Turkish Navy, Official*

4 Ex-Canadian MCB Type. "Gaspe" Class

TIREBOLU M 524 (ex-H.M.C.S. *Comox*) — **TERME** M 523 (ex-H.M.C.S. *Trinity*)
TEKIRDAG M 525 (ex-H.M.C.S. *Ungava*) — **TRABZON** M 522 (ex-H.M.C.S. *Gaspe*)

Displacement:	390 tons *standard* (412 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28 × 7¾ feet
Guns:	1—40 mm.
Machinery:	Diesels. 2 shafts. B.H.P.: 2,400 = 16 kts.
Oil fuel:	52 tons
Radius:	4,500 miles at 11 kts.
Complement:	40

Notes
Former Canadian coastal minesweepers transferred to the Turkish Navy under Mutual Aid arrangements in1958. Sailed from Sydney, N.S. to Turkey on 19 May, 1958.



KAS — *1959, Turkish Navy, Official*

8 Ex-U.S. YMS Type. "K" Class

KARAMURSEL (ex-*Kulluk*, ex-*YMS 348*) Feb. '43 — **KILIMLI** (ex-*YMS 289*) 26 Jan. 1943
KAS (ex-*YMS 79*) 27 Dec. 1941 — **KIRTE** (ex-*YMS 307*) 31 Dec. 1943
KEMER (ex-*YMS 228*) 2 Oct. 1942 — **KOZLU** (ex-*YMS 375*) 27 Feb. 1943
KEREMPE (ex-*YMS 239*) 27 Oct. 1942 — **KUSADASI** (ex-*YMS 468*) 23 Mar. 1944

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136 × 24 × 6 feet
Guns:	1—3 inch, 2—20 mm. AA.
Machinery:	2 G.M. diesels. B.H.P.: 1,000 = 15 kts.(*max.*), 11 kts. (*normal*)
Oil fuel:	16 tons
Radius:	1,500 miles at 9 kts.
Complement:	20

Notes
Former American YMS type coastal minesweepers of wooden construction. Launch dates above. Acquired from the U.S.Navy in 1947. All have one funnel except *Kilimli*, which has two, see photograph in the 1947-48 to 1960-61 editions. Nos. M 516, 517, 520, 519, 518, 521, 513, 514, respectively.

REPAIR SHIPS

2 Ex-U.S. LST Type

BASARAN (*ex-Patroclus*, *ARL 19*, *ex-LST 955*) — **ONARAN** (*ex-Alecto*, *AGP 14*, *ex-LST 558*)

Displacement:	1,625 tons *standard* (3,960 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11 feet
Guns:	2—40 mm. AA., 8—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.:1,700 = 11 kts.
Oil fuel:	1,000 tons
Radius:	6,000 miles at 9 kts.

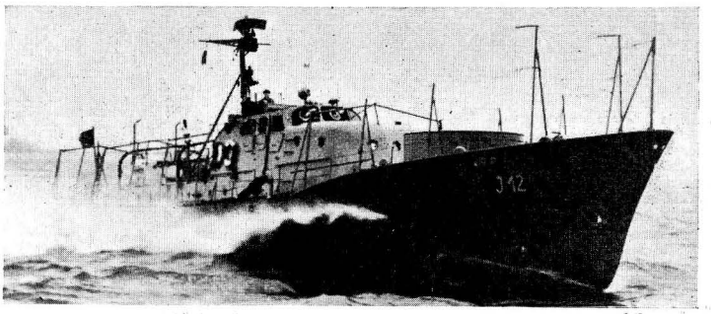
Notes
Former American repair ship and MTB tender, respectively, of the LST type. *Basaran* was launched on 22 Oct. 1944 by Bethlehem Hingham Shipyard. *Onaran* was launched on 14 Apr. 1944 by Missouri Valley Bridge & Iron Co. Acquired from United States Navy in 1952 and 1947, respectively. A photograph of *Onaran* appears in the 1953-54 to 1960-61 editions.

PATROL VESSELS

6 New Construction

Notes
Submarine chasers with U.S. Navy hull numbers PC 1638, 1639, 1640, 1641, 1642 and 1643 are building in U.S.A. for transfer to Turkey under MAP.

MOTOR LAUNCHES



No. 12 — *1962, courtesy Mr. W. H. Davis*

10 U.S. Coast Guard Type

Displacement:	70 tons
Dimensions:	95 × 15½ × 4½ feet
Machinery:	4 Mercedes-Benz diesel motors. 2 shafts. B.H.P.:2,700 = 29 kts.

Notes
Coast guard cutters of the U.S.C.G. type built in 1960-61 by Schweers, Bardenfleth.



AB 7 — *Added 1961, Captain Aldo Fraccaroli*

8 Ex-British ML Type

AB 1 (*ex-ML 386*) P 321 — **AB 4** (*ex-ML 837*) P 324 — **AB 7** (*ex-ML 862*) P 327
AB 2 (*ex-ML 584*) P 322 — **AB 5** (*ex-ML 838*) P 325 — **AB 8** (*ex-ML 863*) P 328
AB 3 (*ex-ML 836*) P 323 — **AB 6** (*ex-ML 842*) P 326

Displacement:	85 tons *standard* (115 tons *full load*)
Dimensions:	112 × 17¾ × 4 feet
Guns:	1—3 pdr., 2—20 mm. AA , 4 M.G.
Machinery:	2 Hall-Scott engines. B.H.P.: 1,120 = 21 kts.
Oil fuel:	12 tons
Complement:	18

Notes
Former British motor launches of the Fairmile B type. Launched in 1940-42. Transferred to Turkey in 1947. P pennant numbers (NATO) above. A photograph of *AB 2* appears in the 1947-48 to 1960-1961 editions.



LS 12 — *1961, Giorgio Arra*

4 Ex-U.S. Type

LS 9 P 339 — **LS 10** P 308 — **LS 11** P 309 — **LS 12** P 310

Displacement:	63 tons
Dimensions:	83 × 14 × 5 feet
Guns:	1—20 mm. AA.
Machinery:	2 Cummins. B.H.P.: 1,100

Notes
Motor launches of American construction, transferred on 25 June, 1953. P pennant numbers (NATO) above.

Recent Disposals
It is officially stated that the eight ex-British motor launches of the HDML type, *LS 1*, *LS 2*, *LS 3*, *LS 4*, *LS 5*, *LS 6*, *LS 7* and *LS 8*, were scrapped in 1959.

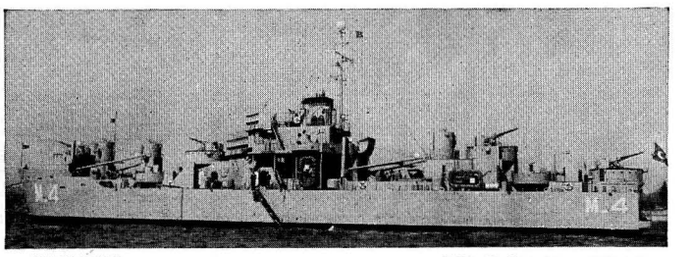
8 Utility Type

MTB 1 P 311 — **MTB 3** P 313 — **MTB 6** P 316 — **MTB 8** P 318
MTB 2 P 312 — **MTB 4** P 314 — **MTB 7** P 317 — **MTB 9** P 319
MTB 10 P 320

Displacement:	70 tons
Dimensions:	71½ × 13¾ × 8½ (*max.*) feet
Machinery:	Diesel. B.H.P.: 2,000 = 10 kts.
Complement:	8

Notes
All launched in 1942. General purpose craft. P pennant numbers (NATO) above. Photograph of MTB 9 in the 1957-58 edition. MTB 5 (P 315) has been discarded for scrap.

COASTAL MINELAYERS



MARMARIS 1955, *Turkish Navy, Official*

1 New Construction

Notes
A coastal minelayer with U.S. Navy hull number MMC 16 is building for transfer to Turkey under MAP.

5 Ex-U.S. LSM Type

MARMARIS (*ex-LSM* 481) **MERIC** (*ex-LSM* 490) **MORDOGAN** (*ex-LSM* 494)
MERSIN (*ex-LSM* 492) **MÜREFTE** (*ex-LSM* 493)

Displacement:	743 tons *standard* (1,100 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8½ feet
Guns:	2—40 mm. AA., 2—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 2,880=12 kts.
Oil fuel:	60 tons
Radius:	2,500 miles at 10 kts.
Complement:	70

Notes
Ex-U.S. LSMs., Landing Ships Medium. All five vessels were launched in 1945, converted into minelayers by the U.S. Navy in 1952 and taken over by the Turkish Navy (LSM 481, 484 and 490) and the Norwegian Navy (LSM 492 and 493) in Oct. 1952 under the Mutual Defense Assistance Program. LSM 492 (*Vale*)) and LSM 493 (*Vidar*) were retransferred to the Turkish Navy on 1 Nov. 1960 at Bergen, Norway. Nato Pennant Nos. N 100 (*Marmaris*), N 101 (*Mardogan*), N 102 (*Meric*), N 103 (*Mersin*), N 104 (*Mürefte*).

1 Ex-U.S. YMP Type

MEHMEDCIK (ex-U.S.S. *YMP* 3)

Displacement:	540 tons *full load*
Dimensions:	130 × 35 × 6 feet
Machinery:	Diesels. 2 shafts. Speed=10 kts
Complement:	22

Notes
Former United States motor mine planter. Built by Higgins Inc., New Orleans, La. Completed in 1958. Steel hulled. Transfered to Turkey under the Mutual Defense Assistance Program in 1958. For harbour defence use.

BOOM DEFENCE VESSELS

3 New Construction

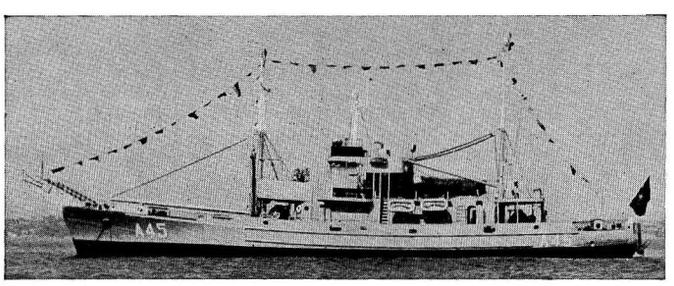
Notes
Gate vessels, ex-YNG 45, 46, 47 are building for Turkey for transfer under MAP.

2 Ex-U.S. AN Type

AG 5

Displacement:	680 tons *standard* (960 tons *full load*)
Dimensions:	148¾ (*pp.*), 173¾ (*o.a.*) × 34⅞ × 13½ feet
Guns:	1—40 mm. AA., 3—20 mm. AA.
Machinery:	4 MAN diesel motors. 2 shafts. B.H.P.: 1,450=12 kts.
Complement,	48

Notes
Net tender built under the United States off-shore procurement programme by Kröger, Rendsburg Shipyard for transfer to Turkey under the Military Aid Programme in Apr. 1959. U.S. designation: AN 104. Launched on 20 Oct. 1960. Delivered on 25 Feb. 1961.



AG 4 1955, *Turkish Navy, Official*

AG 4 (*ex-Larch*, *ex-AN* 21)

Displacement:	560 tons *standard* (805 tons *full load*)
Dimensions:	146 (*w.l.*), 163 (*o.a.*) × 30½ × 10½ feet
Guns:	1—3 inch AA
Machinery:	Diesel-Electric. B.H.P.: 800=12 kts.
Complement:	48

Notes
Former American netlayer of the " Aloe " class. Built by American S. B. Co., Cleveland. Laid down in 1940. Launched on 2 July, 1941. Completed in 1941. Acquired from United States Navy in 1947. Pennant No. A 45.

3 Ex-British " Bar " Class

AG 1 (*ex-Barbarian*, 21 Oct. 1937) **AG 3** (*ex-Barfair*, 21 May 1938)
AG 2 (*ex-Barbette*, 15 Dec. 1937)

Displacement:	750 tons *standard* (1,000 tons *full load*)
Dimensions:	150 (*pp.*), 173¾ (*o a.*) × 32¼ × 9½ feet
Guns:	1—3 inch AA.
Machinery:	Triple expansion. I.H.P.: 850=11·5 kts
Boilers:	2 S.E.
Complement:	32

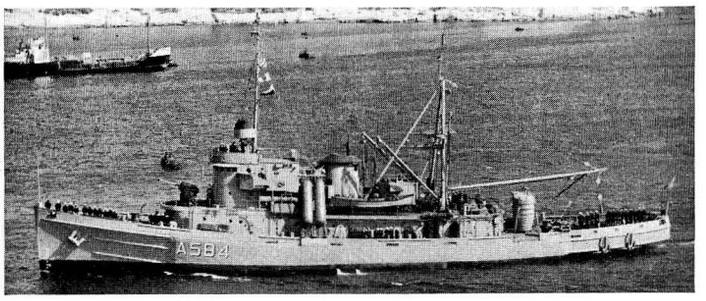
Notes
Former British boom defence vessels of the " Bar " type. First two built by Blyth S.B. Co., third by J. Lewis & Sons. Launch dates above. Photograph in the 1957-58 edition.

PRESIDENTIAL YACHT

HALAS (*ex-Umur*)

Notes
Completed and commissioned for service in 1956. Renamed *Halas* in 1961.

SUBMARINE RESCUE SHIP



KURTARAN 1961, *A. & J. Pavia*

1 Ex-U.S. ASR Type

KURTARAN (*ex-Bluebird*, *ex-Yurok*)

Displacement:	1,294 tons *standard* (1,675 tons *full load*)
Dimensions:	205 (*o.a.*) × 38½ × 12 feet
Guns:	1—3 inch, 2—40 mm. AA.
Machinery:	Diesel-electric. B.H.P.: 3,000=16 kts.
Complement:	85

Notes
Built by Charleston S. B. & D. D. Co. Launched in 1946. Former salvage tug, adapted as a submarine rescue vessel in 1947. Transferred from the United States Navy on 15 Aug. 1950, under the Mutual Defense Assistance Program. Pennant No. A 67. NATO Pennant No. A584. Another photograph appears in the 1949-50 to 1957-58 editions.

TENDERS

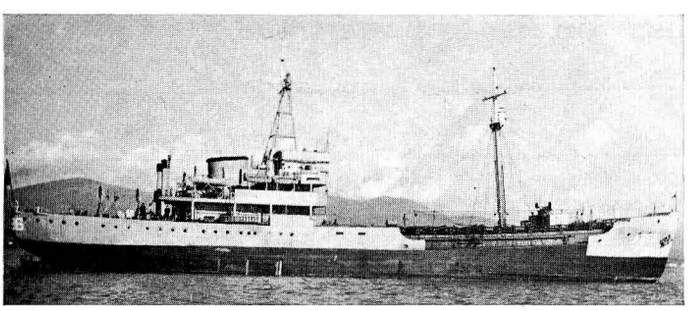
ISIN (*ex-Imia Layteri*)

Displacement:	390 tons *full load*
Dimensions:	110×24×7 feet
Guns:	1 M.G.
Machinery:	Crossley diesel. B.H.P.: 330
Oil fuel:	32 tons

Notes
Built by James Pollock, Sons & Co., Faversham. Launched in 1941. A coaster type vessel. Formerly employed in charging the batteries of submarines. Has now become a main diving ship. Photograph in the 1957-58 and earlier editions. Pennant No. A 570.

Disposals
The tenders *Akin* and *Dalgie* have been discarded, it is officially stated.

OILERS

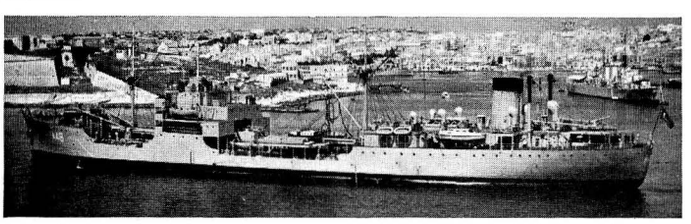


TULUNAY 1959, *Turkish Navy, Official*

YÜSBAŞI TULÜNAY

Displacement:	2,500 tons *standard* (3,500 tons *full load*)
Dimensions:	260×41×19½ feet
Machinery:	Atlas Polar-diesels. 2 shafts. B.H.P.: 1,920=14 kts.

Notes
Built at Taskizak by Hasoy Naval D. Y stanbul. Launched on 22 Aug. 1950. Pennant No. A 586.



AKAR 1959, *A. & J. Pavia*

AKAR (*ex-Istanvul*, *ex-Adour*)

Displacement:	4,289 tons *light* (13,200 tons *full load*)
Dimensions:	433×52¾×27 feet
Machinery:	Parsons geared turbines. S.H.P.: 5,200=15 kts.

Notes
Pennant No. A 48. NATO Pennant No. A 580. Starboard bow oblique photograph in the 1958-59 and earlier editions.

AKPINAR (*ex-Chiwaukum*)

Displacement:	700 tons *standard* (2,700 tons *full load*)
Measurement:	1,453 tons *deadweight*
Dimensions:	212½ (*w.l.*), 220½ (*o.a.*) × 37 × 12¾ feet
Machinery:	Diesel. B.H.P.: 800=10 kts.

Notes
Formerly the United States oiler *AOG* 26. Built by East Coast S. Y. Inc., Bayonne. Laid down on 2 Apr. 1944. Launched on 5 May 1944. Completed on 22 July 1944. Transferred to Turkey in 1949. Photograph in the 1957-58 edition.

GÖLCÜK

Displacement:	1,255 tons
Measurement:	750 tons *deadweight*
Dimensions:	185×31½×10 feet
Machinery:	B. & W. diesel. B.H.P.: 700=12·5 kts

Notes
Built by Gölcük Dockyard, Ismit. Launched on 4 Nov. 1935. Photograph in the 1957-58 and earlier editions. Pennant No. A 573.
The U.S. harbour tugs ex-YTL 155, 751 were transferred under M.A.P.

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

THE ROYAL NAVY

Board of Admiralty

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The Right Honourable The Lord Carrington, P.C., K.C.M.G., M.C.
The First Sea Lord and Chief of the Naval Staff:
Admiral of the Fleet Sir Caspar John, G.C.B.
The Second Sea Lord and Chief of Naval Personnel:
Admiral Sir Royston Wright, K.C.B., D.S.C. and Bar.
The Third Sea Lord and Controller:
Vice-Admiral Michael Le Fanu, C.B., D.S.C.
The Fourth Sea Lord and Vice-Controller:
Vice-Admiral John Michael Villiers, C.B., O.B.E.
The Vice-Chief of Naval Staff:
Vice-Admiral Sir Varyl Cargill Begg, K.C.B., D.S.O., D.S.C.
The Deputy Chief of Naval Staff and Fifth Sea Lord:
Vice-Admiral Peter William Gretton, C.B., D.S.O. and two Bars, O.B.E., D.S.C.
The Civil Lord:
Mr. Charles Ian Orr-Ewing, O.B.E., M.P.
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The Director General, Ships:
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The Director General, Aircraft:
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The Director General, Weapons :
Rear-Admiral Charles Piercy Mills, C.B.E., D.S.C.

Navy Estimates

1952-53: £332,250,000	1956-57: £348,840,000	1960-61: £397,500,010
1953-54: £329,500,000	1957-58: £316,000,000	1961-62: £406,073,400
1954-55: £353,000,000	1958-59: £339,400,000	1962-63: £422,273,000
1955-56: £340,500,080	1959-60: £370,700,000	

Colour of Ships

Ships in commission: light grey hulls and superstructure with white topmasts. Ships in reserve: light grey overall. Submarines: Home, black; Mediterranean, royal blue; Far East, dark green. Destroyers, frigates, coastal minesweepers: Leaders have 4 ft. black band round top of first or visible funnel; divisional leaders now have no funnel markings. All ships have their flotilla number painted on funnel. Royal Fleet Auxiliaries have black hulls, light grey upperworks, light grey funnel with black top, except Fleet Train Ships, which conform to Fleet painting. Surveying vessels have white hulls and superstructure with buff masts and funnels. Ships on Persian Gulf or Red Sea stations have white hulls and superstructure. All ships, except surveying vessels, now have their pennant numbers painted on the side forward, usually abreast the bridge, and on the stern or transom (on the island superstructure in aircraft carriers, and on the conning tower in submarines).

Recognition Deck Letters of Aircraft Carriers

Albion	A	*Eagle*	E	*Ark Royal*	R
Bulwark	B	*Hermes*	H	*Victorious*	V
Centaur	C				

Personnel

1952-53: 153,000	1956-57: 126,000	1960-61: 102,000
1953-54: 151,000	1957-58: 121,500	1961-62: 100,000
1954-55: 139,000	1958-59: 112,000	1962-63: 100,000
1955-56: 133,000	1959-60: 106,000	

Mercantile Marine

Lloyd's Register of Shipping: 5,182 vessels of 21,464,522 tons *gross*

British Carrier-Borne Aircraft

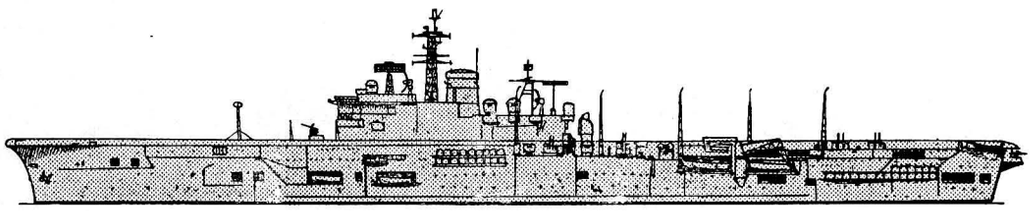
Name	*Maker*	*Type*	*Dimensions*	*Power Plant*	*Armament*	*Performance*
SEA VIXEN FAW. Mk. 1	de Havilland	Two-Seat Day and Night All-Weather Fighter	Wing Span 50 ft. Folded 22 ft. 3 in. Length 55 ft. 7 in.	Two Rolls - Royce Avon 208 Turbojets	Firestreak Guided Missiles and bombs or rockets	Maximum Speed, over 700 m.p.h.
SCIMITAR F. Mk. 1	Supermarine	Single-Seat Fighter and Strike Aircraft	Wing Span 37 ft. 2 in. Folded 20 ft. Length 55 ft. 4 in.	Two Rolls - Royce Avon 202 Turbojets	Sidewinder Guided Missiles. Bombs, rockets or Nuclear Weapons	Maximum Speed, 710 m.p.h.
BUCCANEER S. Mk. 1	Blackburn	Two-Seat All-Weather Strike Aircraft	Wing Span 42 ft. 6 in. Folded 20 ft. Length 62 ft. 4 in.	Two de Havilland Gyron Junior 101 Turbojets	Nuclear Weapons Large bomb bay with rotating door	Speed in transonic range at low altitudes
GANNET AEW. Mk. 3	Westland	Three - Seat Early Warning Aircraft	Wing Span 54 ft. 6 in. Folded 19 ft. 6 in. Length 44 ft.	One Bristol Sideley Double Mamba 102 Turboprop	None	Maximum Speed, approx. 250 p.m.h.
WHIRLWIND Mks. 1, 3, 5, 7, 21 and 22	Westland and Sikorsky (U.S.A.)	Multi-Seat Helicopter	Rotor dia: 53 ft. Fuselage length 41 ft. 8½ in.	One Pratt & Whitney, Wright or Alvis Leonides Engine	Anti - Submarine Weapons (Mk. 7)	Maximum Speed, 110 m.p.h. Range 300 to 335 miles
WESSEX HAS. Mk. 1	Westland	Multi-Seat Anti-Submarine and Transport Helicopter	Fuselage Length: 49 ft. 11 in. Rotor dia: 56 ft.	One Napier Gazelle 160 Shaft - Turbine Engine	Anti-Submarine Weapons	Maximum Speed, 138 m.p.h. Range 390 miles

British Naval Guided Missiles

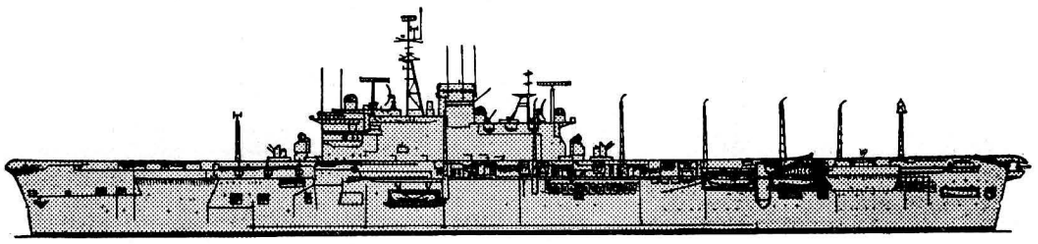
Type	*Name*	*Maker*	*Length ft.*	*Propulsion*	*Speed mach.*	*Range miles*	*Guidance System*	*Notes*
SURFACE-TO-AIR	Seacat	Short Bros. & Harland	4.85	Solid propellant			Radio command	Close range anti-aircraft missile
	Seaslug	Whitworth Gloster	19.65	I.C.I. Solid propellant and solid boosters			Beam-rider	Carried by County Class destroyers
AIR-TO-AIR	Firestreak	de Havilland	10.5	Solid propellant		0.75-5	Infra-red	Carried by Sea Vixen fighters
	Sidewinder	N.O.T.S. (U.S.A.)	9.2	Solid propellant	2.5	2	Infra-red	Carried by Scimitar fighters

SILHOUETTES

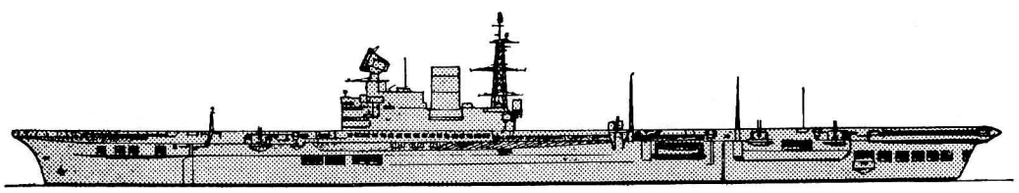
Scale: 150 ft. = 1 inch



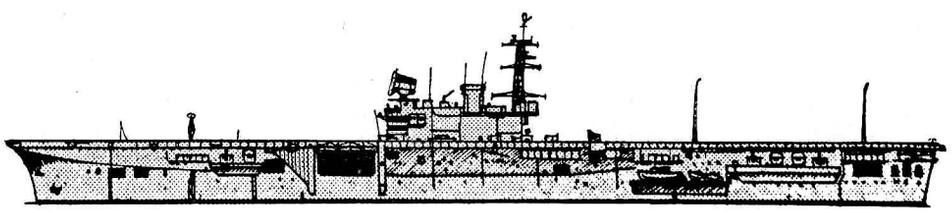
ARK ROYAL



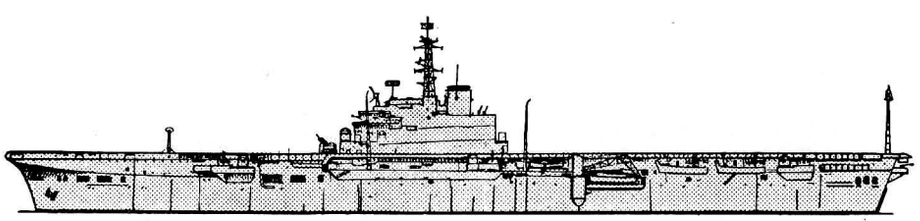
EAGLE



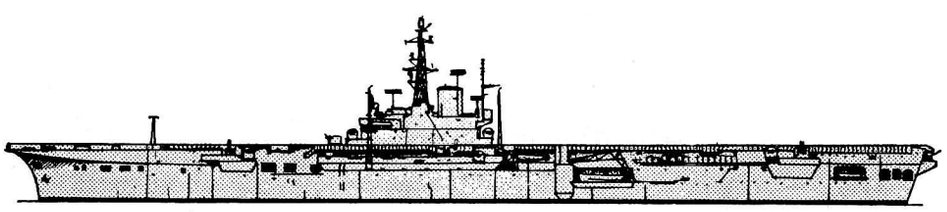
VICTORIOUS



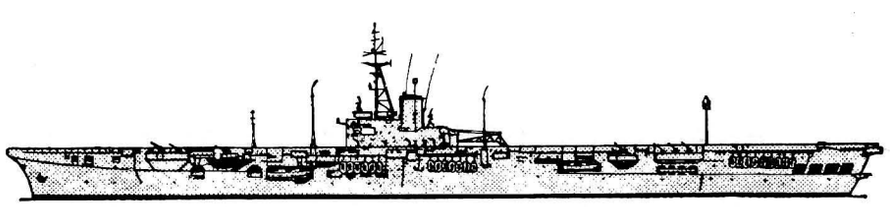
HERMES



BULWARK



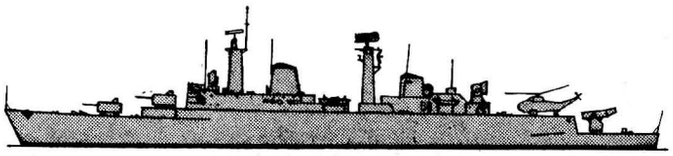
CENTAUR



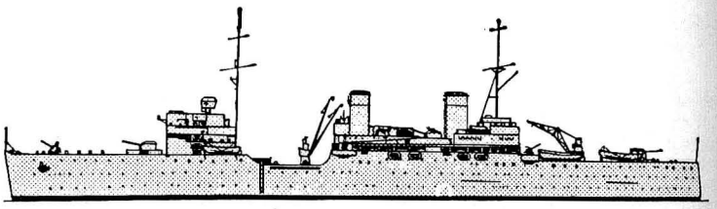
MAGNIFICENT

Silhouettes—*continued*

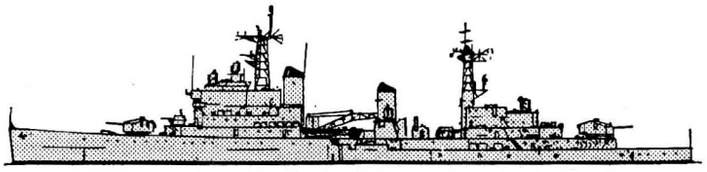
Scale : 150 ft. = 1 inch.



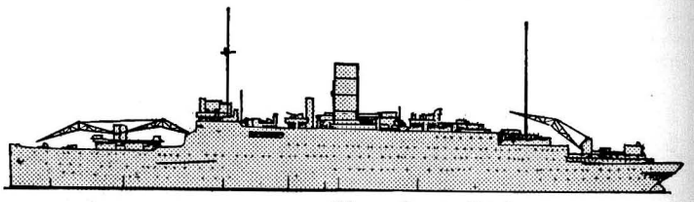
DEVONSHIRE



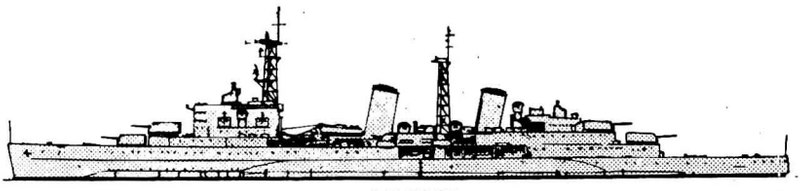
FORTH (Submarine Depot Ship)



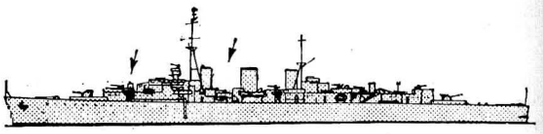
BLAKE, LION, TIGER



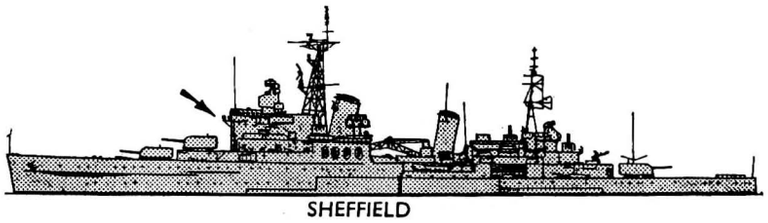
AUSONIA (Heavy Repair Ship)



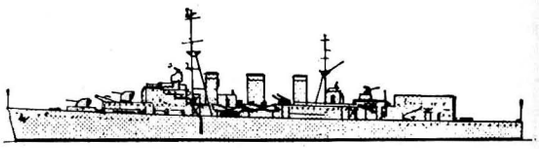
BELFAST



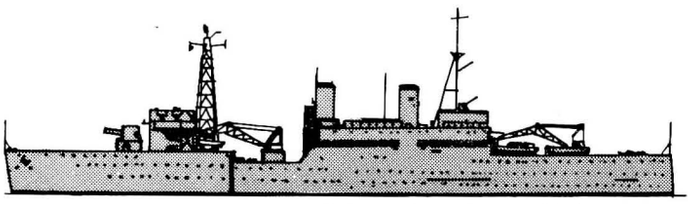
ARIADNE (Fast Minelayer)



SHEFFIELD



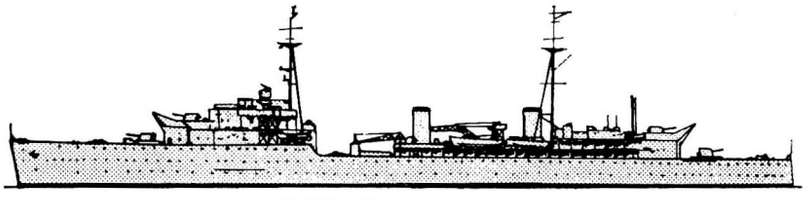
MANXMAN (Fast Minelayer,
being converted into Minesweeper Support Ship)



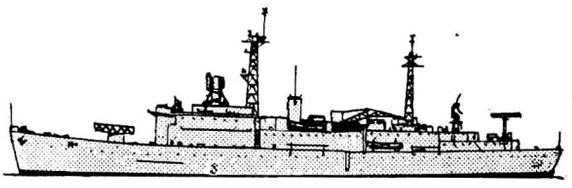
MAIDSTONE (Nuclear Submarine Support Ship)



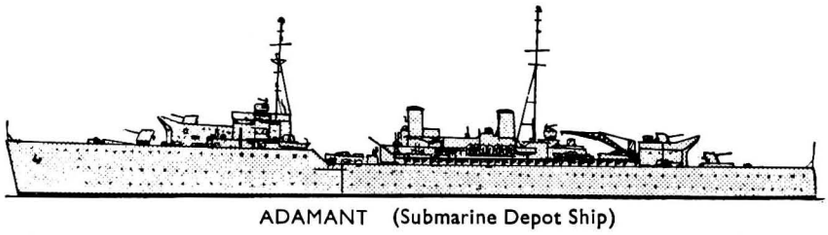
HARTLAND POINT (Escort Maintenance Ship)



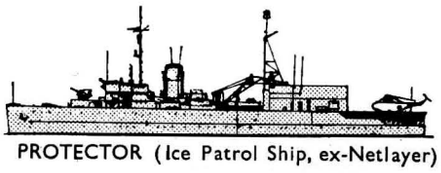
TYNE (Destroyer Depot Ship)



GIRDLENESS (ex-Guided Missile Trials Ship)



ADAMANT (Submarine Depot Ship)



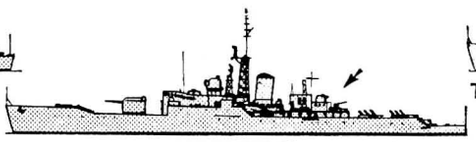
PROTECTOR (Ice Patrol Ship, ex-Netlayer)

Silhouettes—*continued*

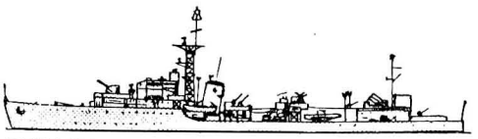
Scale: 150 ft. = 1 inch.



DECOY, DIAMOND, DIANA, DUCHESS



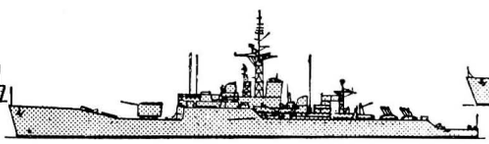
ROTHESAY *Class*



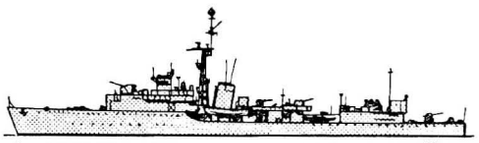
TENACIOUS, TUSCAN, TYRIAN (Fast Frigates. Limited Conversion from Destroyers)



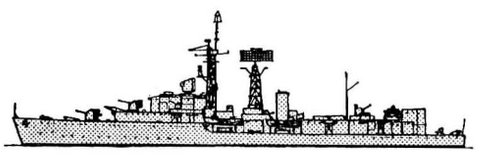
DAINTY, DARING, DEFENDER, DELIGHT



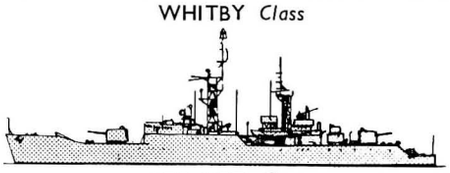
WHITBY *Class*



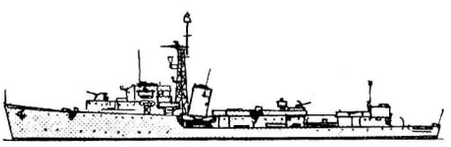
TERMAGANT, TERPSICHORE, TUMULT, with modified bridge (Fast Frigates)



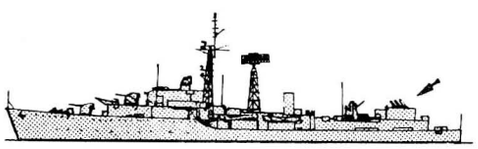
BATTLEAXE, BROADSWORD, CROSSBOW (Fleet Radar Pickets, with Squids)



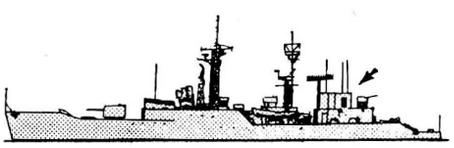
LEOPARD *Class*



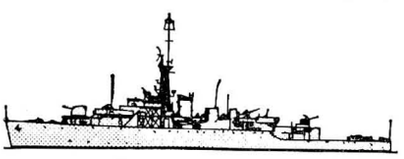
ORWELL, PETARD (Fast Frigates) Smaller Limited Conversion from Destroyers)



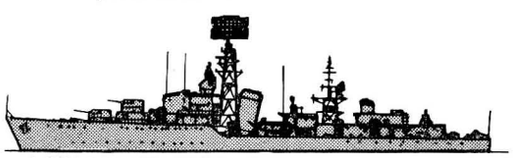
SCORPION (Fleet Radar Picket with Limbo



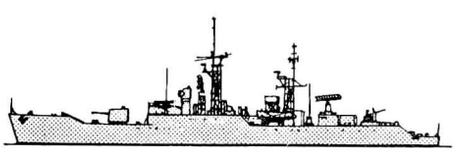
LINCOLN



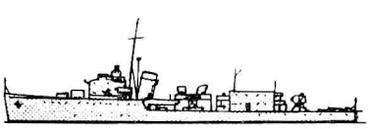
"LOCH" *Class*



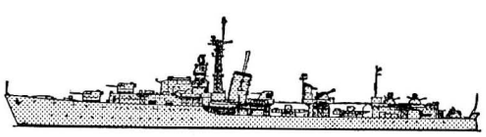
AGINCOURT, AISNE, BARROSA, CORUNNA ("BATTLE" *Class* Fleet Radar Pickets)



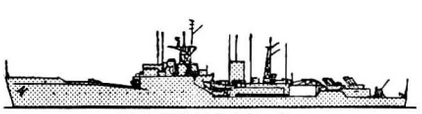
CHICHESTER, LLANDAFF, SALISBURY



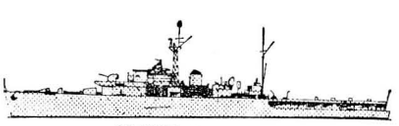
BROCKLESBY (Asdic Trials Ship) Modified Frigate



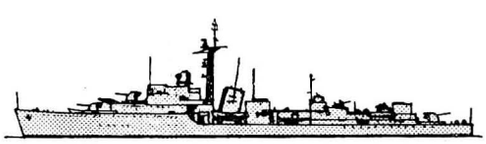
DUNKIRK, JUTLAND, MATAPAN (Later "Battle" *Class* not converted)



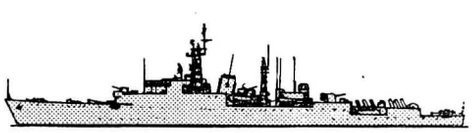
BLACKWOOD *Class*



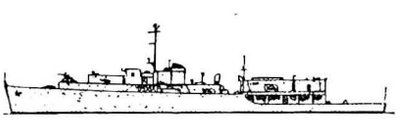
ALERT, SURPRISE (Despatch Vessels) Modified Frigates



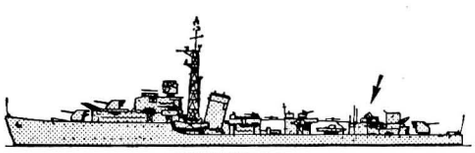
CARYSFORT, CAVALIER, CAVENDISH Superstructure extended aft, modified bridge



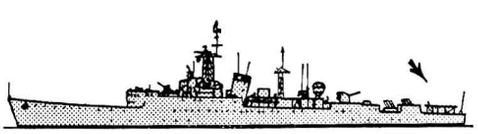
TROUBRIDGE, ULSTER, ZEST (Full Conversion Frigate bridge, gun on break)



WOODBRIDGE HAVEN (Minesweeper Support Ship) Modified Frigate



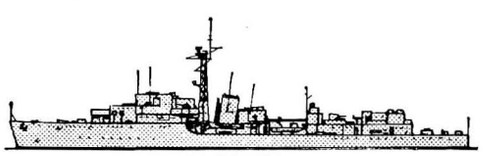
CHEQUERS Two squids, handling room instead of "X" gun



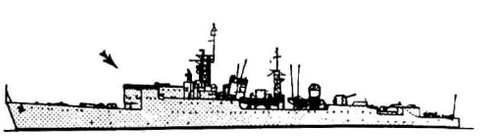
GRENVILLE, UNDAUNTED with helicopter platform aft



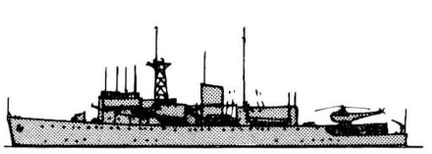
MEON (Landing Ship Headquarters) Modified Frigate



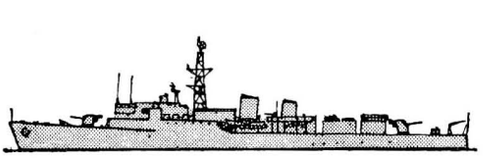
CARRON



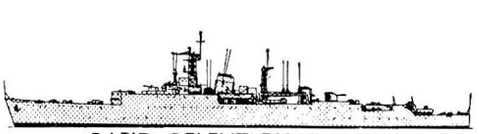
URCHIN, VENUS, VIGILANT Enlarged bridge and deckhouse



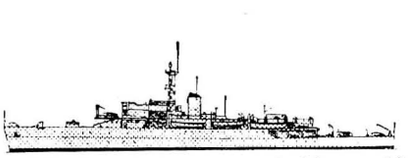
VIDAL (Survey Ship) with helicopter



ASHANTI ("TRIBAL") *Class*



RAPID, RELENTLESS ROCKET, (Fast A/S Frigates. Full Conversion)



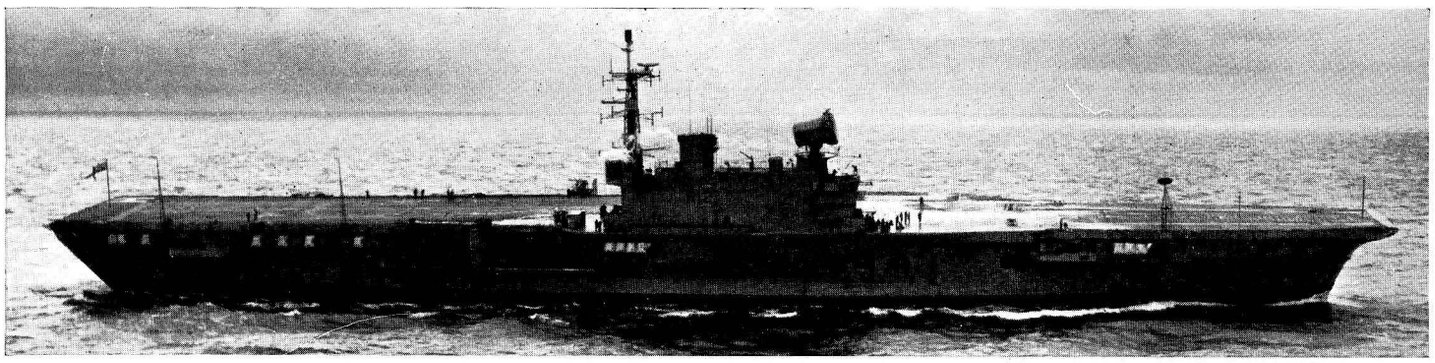
COOK *Class* (DALRYMPLE, deckhouse aft) (Survey Ships) Modified Frigates

AIRCRAFT CARRIERS



HERMES (port view, showing deck-edge lift)

Added **1962**, *Official*



HERMES (starboard view)

1960, *Official*

HERMES (ex-*Elephant*)

Deck Letter:	H
Pennant No:	R 12
Builders:	Vickers-Armstrongs Shipbuilders) Ltd., Barrow-in-Furness
Laid down:	21 June 1944
Launched:	16 Feb. 1953
Completed:	18 Nov. 1959
Displacement:	23,000 tons *standard*, 27,800 tons *full load*
Dimensions:	Length: 650 (*pp.*), 744¼ (*o.a.*) feet Beam (*hull*): 90 feet; beam (*overall*): 144½ feet. Draught: 28 feet
Guns:	10—40 mm. AA. (twin)
Aircraft:	21 stowage capacity
Catapults:	2 steam
Machinery:	Parsons geared steam turbines. 2 shafts. S.H.P.: 78,000=28 kts.
Boilers:	4 Admiralty 3-drum type
Complement:	1,834 peace complement (190 officers, 1,644 men) 2,100 with air squadrons embarked

General Notes

Hermes is known as the " Hermes " Class (Modernised), to distinguish her from the " Centaur " Class, of which she was originally a sister ship (and name ship), as her design has been modified so much, as she is virtually of a different type; in many ways she is more advanced than the earlier ships of the class and incorporates new equipment and improved arrangements, including five post-war developments—the angled deck, the steam catapult, the mirror landing sight, the 3-D radar, and the deck-edge lift. Her arrangements and equipment are of similar standard to the improvements in the reconstructed aircraft carrier *Victorious*. She is air-conditioned throughout. The ship was manned for trials on 23 Oct. 1959, accepted from her builders on 18 Nov. 1959, commissioned for service with the Royal Navy on 25 Nov. 1959, and after her shake-down cruises and full programme of working-up trials embarked her air squadrons and joined the Fleet in the summer of 1960.

Flight Deck Notes

The flight deck is angled to 6½ degrees off the centre line of the ship, the biggest angle that can be practically contrived in an aircraft carrier of the size.

Engineering Notes

The ship has the latest system of remote control for her engines, coupled with automatic feed for her boilers, whereby with the entire complement of officers and men under cover and protected in " the citadel," a self-contained section of the ship proof against radio-active fall-out, the ship can be safely steamed through an atomic cloud.

Electrical Notes

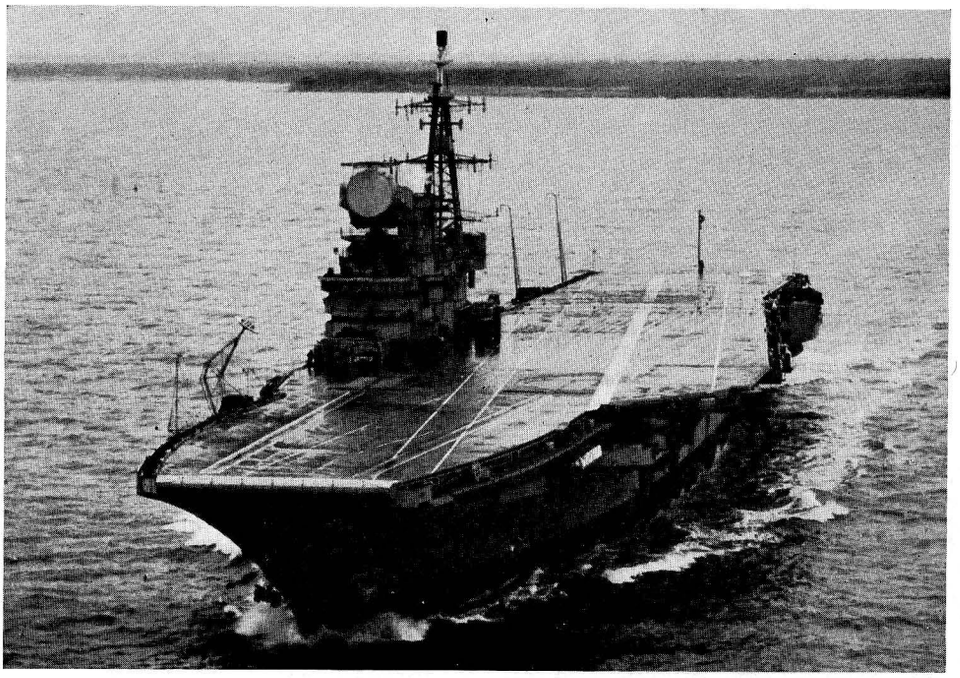
The electrical plant is a 440 volt, 3 phase, 60 cycle A.C. installation, with a generating capacity of 5,440 kW—the largest power station afloat today in the Royal Navy.

Photograph Notes

A port surface view, showing deck-edge lift, appears in the 1960-61 and 1961-62 editions.

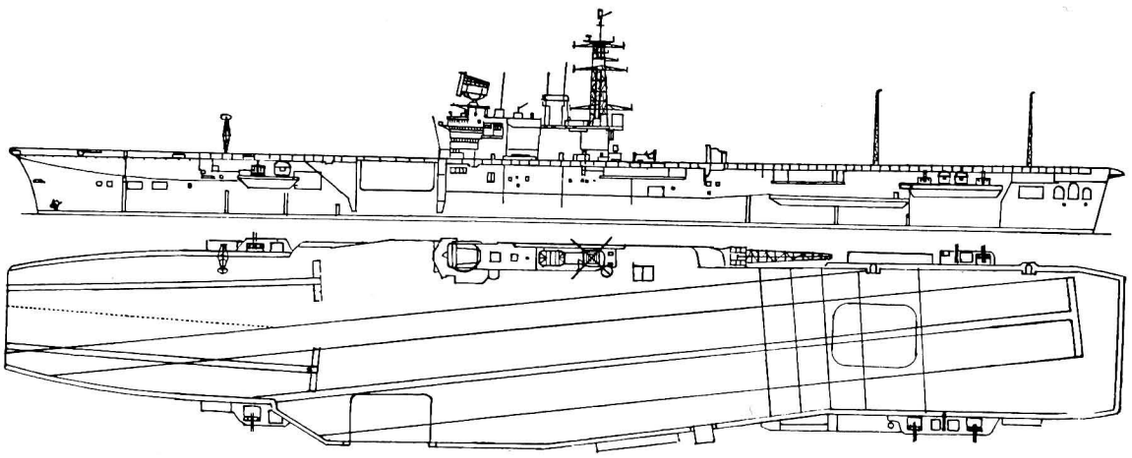
Notes to Drawing

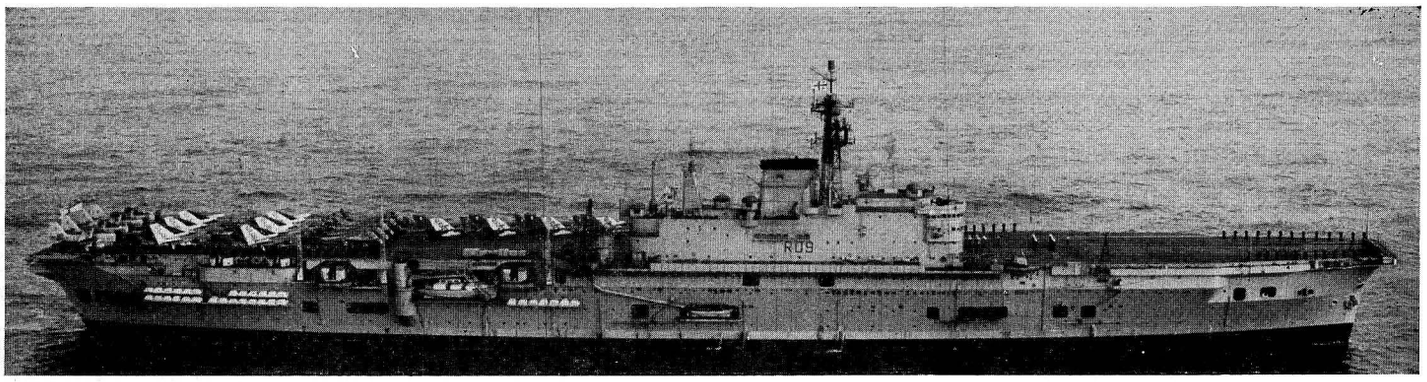
Port elevation and plan. Drawn in 1960. Scale: 128 feet=1 inch.



HERMES (port bow oblique aerial view, showing angled deck)

1960, *Official*





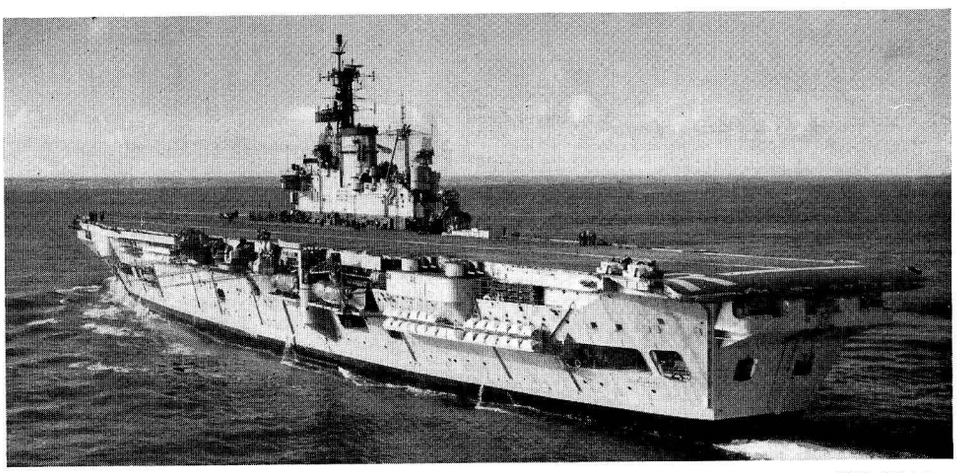
ARK ROYAL (starboard broadside aerial view) 1961, *Official*



ARK ROYAL (port broadside aerial view) 1961, *Official*

ARK ROYAL (ex-*Irresistible*)

Deck Letter:	R
Pennant No.:	R 09
Builders and Engineers:	Cammell Laird & Co. Ltd., Birkenhead
Laid down:	3 May 1943
Launched:	3 May 1950
Completed:	25 Feb. 1955
Displacement:	43,340 tons *standard* (53,340 tons *full load*).
Dimensions:	Length: 720 (*pp.*), 808¾ (*o.a.*) feet. Beam (*waterline*): 112¾ feet. Beam (*overall*): 158½ feet. Draught: 35 (36 *max.*) feet.
Guns:	8—4·5 inch d.p.; 32—40 mm. Bofors AA. (4 6-barrelled, 4 twin), 4—3 pdr. (see notes)
Aircraft:	42. Four squadrons, including helicopters.
Catapults:	2 improved Steam
Machinery:	Parsons single reduction geared turbines. 4 shafts. S.H.P.: 152,000 =31·5 kts.
Boilers:	8 Admiralty 3-drum type, working at 400 lb. per sq. in. pressure and 600 degrees Fahrenheit of superheat
Oil fuel:	5,500 tons
Complement:	1,632 to 1,745 (including the ship's air complement, but excluding the complements of attached squadrons) in peacetime. (2,295 to 2,345 with front line squadrons embarked)



ARK ROYAL (port quarter oblique aerial view, after refit) 1960, *Official*

General Notes

Largest aircraft carrier ever built for the Royal Navy. Fitted with latest equipment for operating fast and heavy jet aircraft, including 5½ degrees angled deck, two lifts on the centre line, two improved steam catapults, a more effective deck landing aid, new type of arrester gear, and improved hangar ventilation. First British aircraft carrier to be provided with steam catapults and associated installation. Largest ship ever built by Cammell Laird. Began contractors' sea trials on 4 June 1954. First commissioned on 22 Feb. 1955. Had first side lift to be installed in an aircraft carrier of the Royal Navy; it was situated amidships on the port side and served the upper hangar. Ship originally cost £21,428,000. Refitted in 1959 when the side lift was removed, the deck park provided by the angled deck having, to a large extent, done away with its necessity, and a new lattice stump mast for a larger radar scanner was stepped abaft the bridge. Refitted in 1961, when the new deck landing projector sight and the new " Hilo " long range guidance system were installed, and more powerful steam catapults fitted.

Appearance Notes.

Differs considerably from sister ship *Eagle*.

Gunnery Notes

Originally mounted 16—4·5 inch guns in eight twin turrets two on each beam forward and two on each beam aft, but the four 4·5 inch dual purpose guns in two twin turrets on the port side forward, temporarily plated over to provide the termination of the angled deck, were removed entirely in 1956 to allow for unimpeded flying off. The 6-barrelled 40 mm. Bofors anti-aircraft mounting beofre the bridge was also removed. The four 4·5 inch guns in two twin turrets on the starboard side forward and the six single 40 mm. anti-aircraft guns were removed in 1959.

Nomenclature Notes

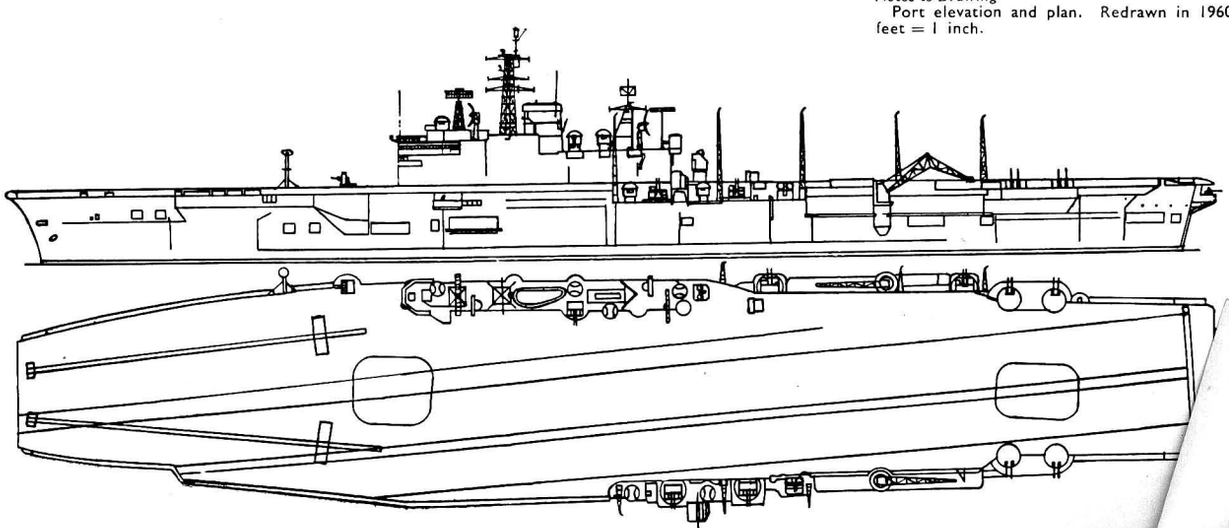
Following the sinking of the first fleet aircraft carrier *Ark Royal* in November 1941, the name was allocated to a considerably larger aircraft carrier projected which had previously been known as the *Irresistible* (the present *Ark Royal*).

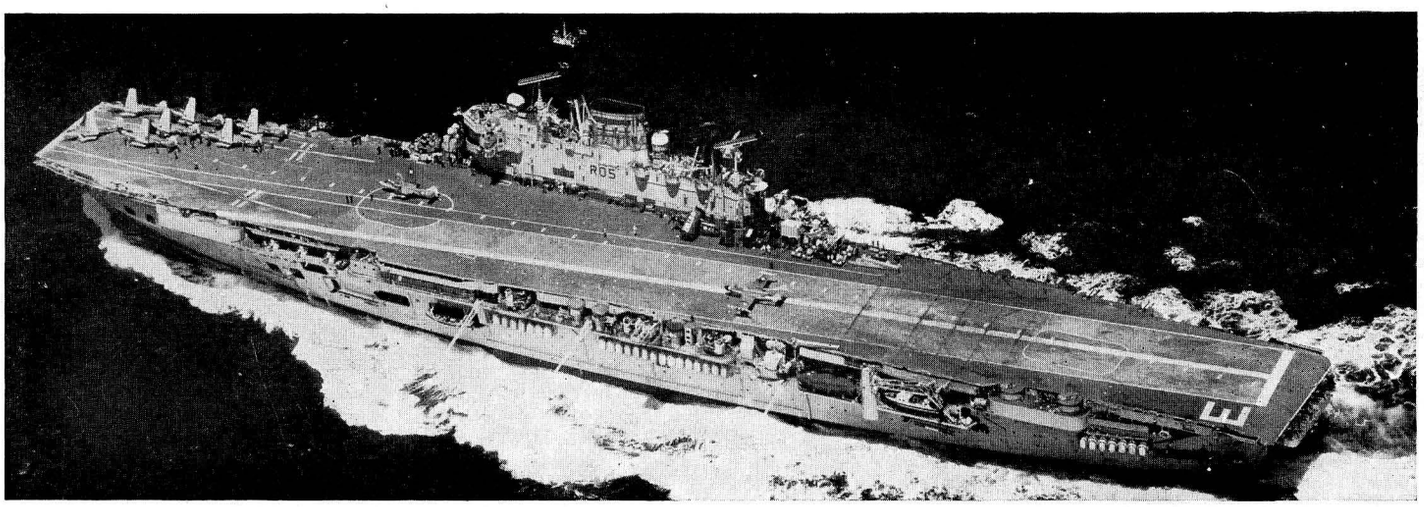
Photograph Notes

Starboard quarter view, port broadside view, and overhead plan view, all before conversion, and showing side lift, in the 1959-60 and earlier editions.

Notes to Drawing

Port elevation and plan. Redrawn in 1960. Scale: 128 feet = 1 inch.





EAGLE (port quarter aerial view)

Added 1960 *Official*

EAGLE (ex-*Audacious*)

Deck Letter:	E
Pennant No.:	R 05
Builders and Engineers:	Harland & Wolff Ltd., Belfast
Laid down:	24 Oct. 1942
Launched:	19 Mar. 1946
Completed:	1 Oct. 1951
Displacement:	44,100 tons *standard* (54,100 tons *full load*). After reconstruction
Dimensions:	Length: 720 (*pp.*), 803¾ (*o.a.*) feet. Beam (*hull*): 112¾ feet. Width (*overall*): 156 feet. Draught: 35½ (36 *max.*) feet
Guns:	16—4·5 inch d.p., 58—40 mm. AA. (8—6-barrelled, 2 twins in stern sponsons, 6 single) 4—3 pdr. (armament before reconstruction; guns under review). To be armed with "Sea-cat"
Aircraft:	42 storage capacity
Catapults:	2 steam (see *Modernisation Notes*)
Machinery:	Parsons single reduction geared turbines, 4 shafts. S.H.P.: 152,000= 31·5 kts. *deep load*
Boilers:	8 Admiralty 3-drum type
Complement:	1,425 (including ship's air complement, but excluding the complements of embarked air squadron); (2,750 war) *max.* accommodation

General Notes

Ordered on 19 May 1942 and finally accepted into the Royal Navy on 1 Mar. 1952. Of 90 per cent welded construction. Damage control arrangements are exceptionally complete. Originally cost £15,795,000.

Modernisation Notes

The ship is being extensively refitted and completely modernised. She is being provided with a fully angled flight deck at 8½ degrees, new flight deck armour, and 984 radar; and comprehensive structural alterations are being made to equip her with two steam (instead of hydraulic) catapults for launching the latest naval aircraft. Her superstructure will be half as long again as her former island and she will have a lattice mainmast much shorter and thicker than any previously stepped in aircraft carriers. The most up-to-date living accommodation for the ship's complement is also being incorporated. Her reconstruction commenced at the end of 1959, and is scheduled to be completed in 1964.

Appearance Notes

The shape of the stern differs from that in earlier aircraft carriers. *Eagle* differs from *Ark Royal*.

Class Notes

Sister ship of *Ark Royal*, see previous page. Two more large fleet aircraft carriers of this type, *Africa* and original *Eagle*, were cancelled at the end of the Second World War. Three much larger fleet aircraft carriers, to have been named *Gibraltar*, *Malta* and *New Zealand*, were also cancelled.

Nomenclature Notes

After the first aircraft carrier *Eagle* was lost in August 1942 the name was given to an aircraft carrier of the above class ordered from Vickers-Armstrongs, Ltd., Tyne, but this vessel was cancelled at the end of the war, and the sister ship which had been begun as the *Audacious* was renamed *Eagle* on 21 Jan. 1946.



EAGLE starboard bow oblique aerial view showing angled deck)

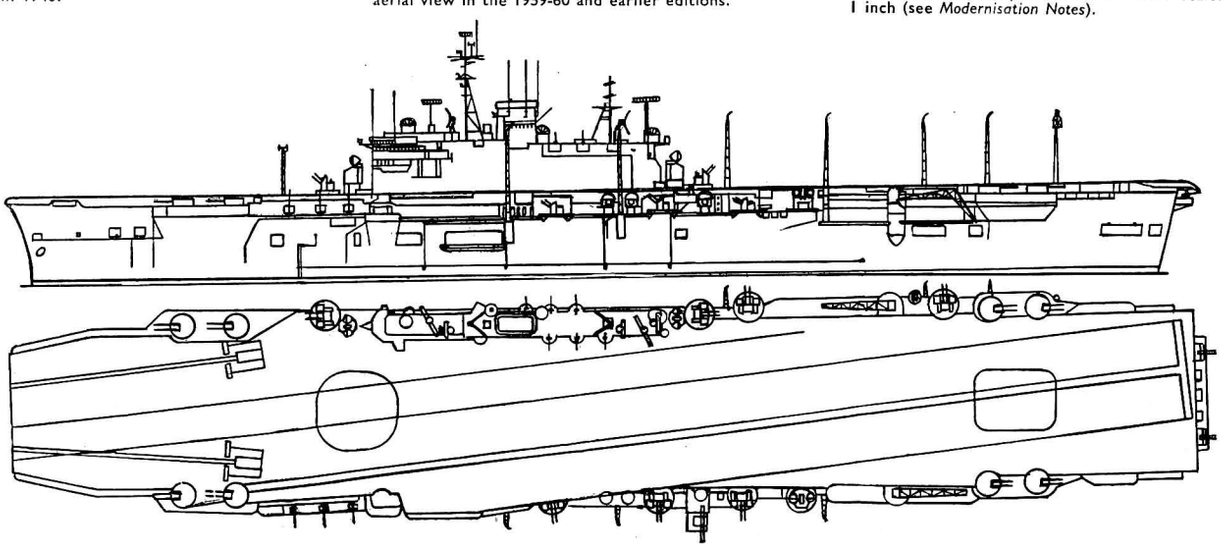
Added 1960, *Official*

Photograph Notes

Port bow view, starboard bow view, and port bow oblique aerial view in the 1959-60 and earlier editions.

Note to Drawing

Port elevation and plan. Drawn in 1957. Scale: 128 feet= 1 inch (see *Modernisation Notes*).





VICTORIOUS (starboard aerial view) 1962, *Official*

VICTORIOUS

Deck Letter:	V
Pennant No.:	R 38
Builders:	Vickers-Armstrongs (Shipbuilders) Ltd., Newcastle-on-Tyne
Engineers:	The Wallsend Slipway Engineering Co. Ltd., Wallsend-on-Tyne
Ordered:	13 Jan. 1937
Laid down:	4 May 1937
Launched:	14 Sep. 1939
Completed:	15 May 1941
Rebuilt:	H.M. Dockyard, Portsmouth, 1950-58
Displacement:	30,530 tons *standard* (35,500 tons *full load*) revised figures
Dimensions:	Length: 740 (*pp.*), 781 (*o.a.*) feet. Beam (*hull*): 103½ feet. Width (*overall*): 146¾ feet. Draught: 31 feet
Guns:	12—3 inch, 50 cal.; 6—40 mm. AA. Bofors (1—6-barrelled); 4—3 pdr.
Aircraft:	24 stowage capacity, including helicopters
Catapults:	2 steam
Armour:	4½" belt, 4½" hangar side, 3½" flight deck, 2½" hangar deck
Machinery:	3 sets Parsons geared turbines. 3 shafts. S.H.P.: 110,000=31 kts. (trial speed 32·2 kts.)
Boilers:	6 Foster Wheeler
Complement:	2,200

General Notes

This ship originally had a displacement of 22,600 tons *standard* (29,100 tons *full load*), dimensions 751×95¾×29¼ feet, and a main armament of 16—4·5 inch guns.

Reconstruction Notes

Virtually rebuilt in H.M. Dockyard, Portsmouth, 1950 to 1958. Re-launched (floated out of dry dock) on 19 May 1955. One of the best equipped aircraft carriers in the world. She has a fully angled flight deck, steam catapults and the most modern landing control system. Her electronic equipment is of the most advanced design. It includes a high powered radar set which can detect aircraft targets at considerable range and height. With this radar set goes a new display system which makes it possible to clarify the airborne target situation quickly and easily. This will enable her to exploit to the full the capabilities of the latest and next generations of naval aircraft. Two mirror sight deck landing aids and new high speed lifts were fitted. Her reconstruction involved increase in length by 30 feet, hull beam by 7¾-feet, draught by 1¾ feet. Her 3 inch guns are in twin mounts of new pattern. She was the first aircraft carrier in the Royal Navy with a fully angled deck. She has the latest arrester gear. Her modernisation included re-boilering, the installation of new armament and improved accommodation.

Flight Deck Notes

An angle of 8¾ degrees was achieved by extending the flight deck outwards for 41 feet on the port side for a length of 120 feet. It overhangs the ship's side by 35½ feet, the extension being supported by a very large sponson bracketed into the ship's structure, and counter-balanced by the weight of the island superstructure opposite on the starboard side.

The flight deck, over 775 feet long, is strong enough to take the heaviest Fleet Air Arm machines, including the Blackburn Buccaneer. Two parallel track 145 feet catapults are fitted forward with aircraft positioners and jet blast deflectors. The arrester gear comprises four wires with an average span of 80 feet.

Engineering Notes

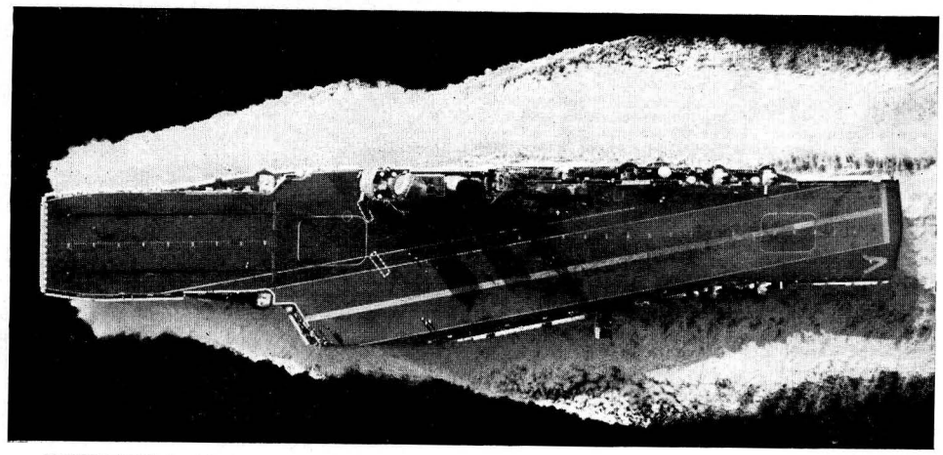
The ship can be steamed from the machinery control room by hydraulic remote controls. Steam conditions: 440 lb. per sq. inch pressure; 750 deg. Fah. superheat.

Electrical Notes

The main generating capacity of the ship has been increased from 2,400 kW to 4,200 kW.



VICTORIOUS (port bow oblique aerial view) 1962, *Official*



VICTORIOUS (aerial plan view showing fully angled deck) 1959, *Official*

Appearance Notes

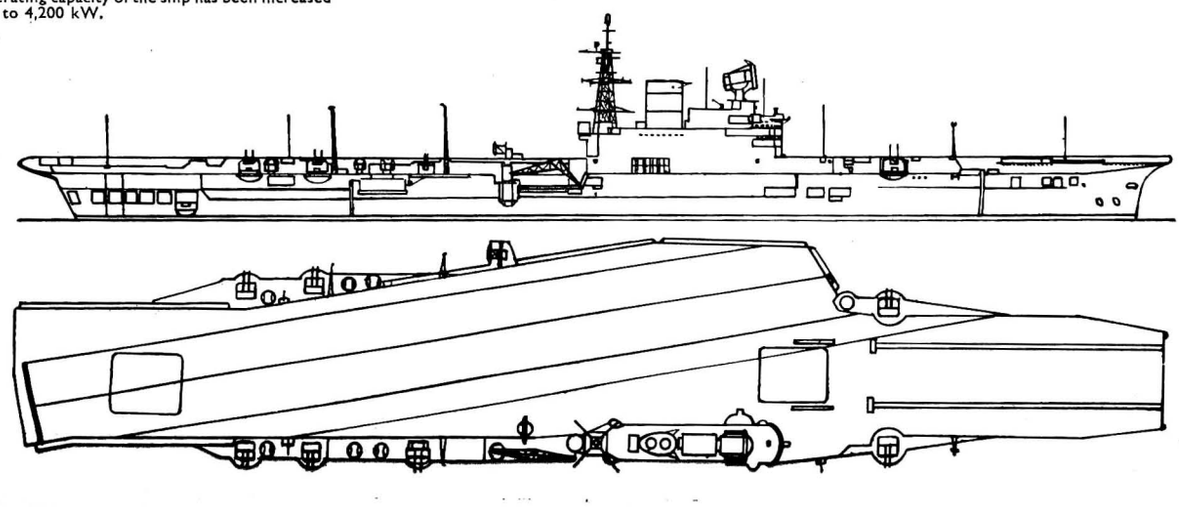
Easily distinguished from other carriers by rather smaller island, very large radar aerial surmounting the bridge, long overhang at the stern, massive angled deck terminal sponson and black band round top of funnel.

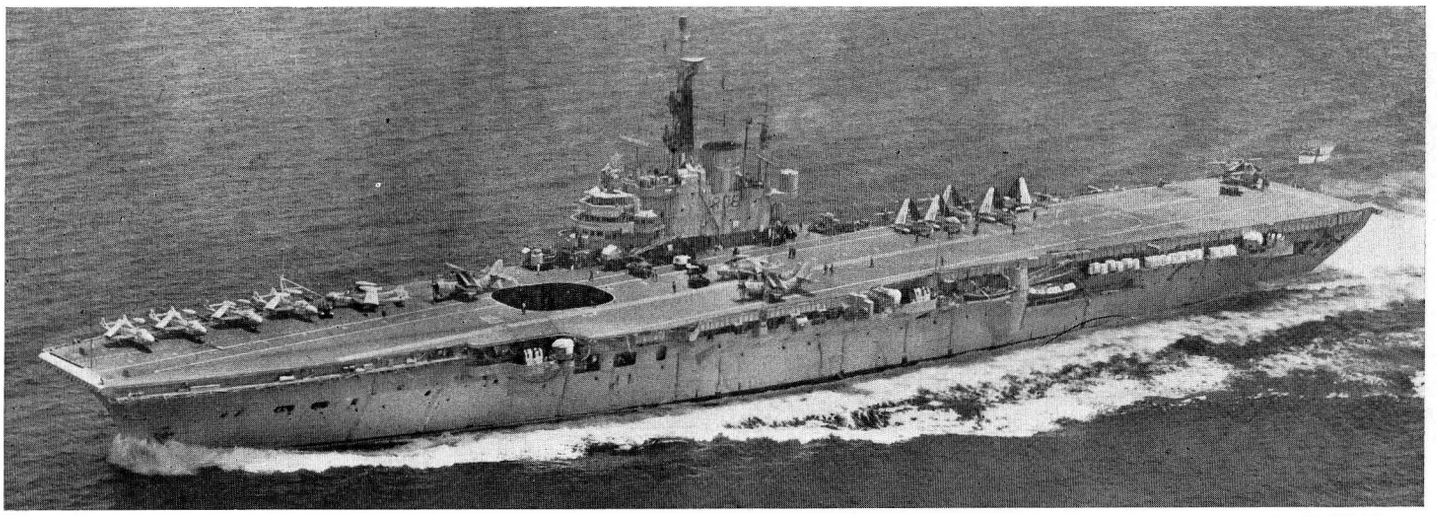
Note to Drawing

Starboard elevation and plan. Scale 1·28 feet=1 inch

Photograph Notes

A port surface view and a port bow oblique aerial view appears in the 1960-61 and 1961-62 editions; a port bow surface view and a starboard bow oblique aerial view in the 1959-60 edition; and a starboard quarter broadside view, a port quarter aerial view, and a starboard bow view in the 1958-59 edition.

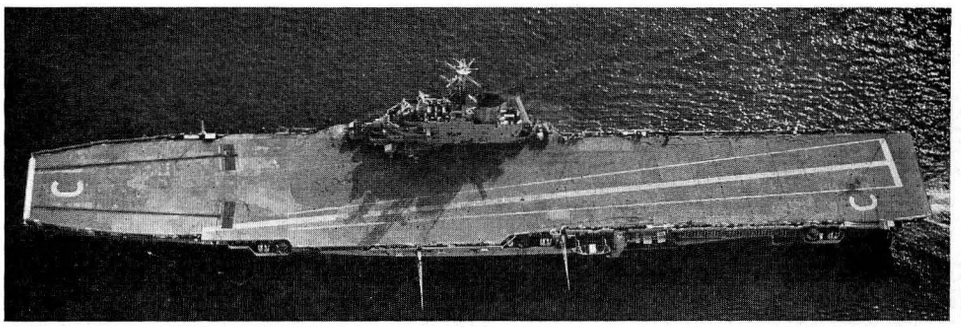




CENTAUR (port oblique aerial view, showing forward lift well open) *Added* 1962, *Official*

CENTAUR

Deck Letter:	C
Pennant No.:	R 06
Builders:	Harland & Wolff Ltd., Belfast
Engineers:	Harland & Wolff Ltd., Belfast
Laid down:	30 May 1944
Launched:	22 Apr. 1947
Completed:	1 Sep. 1953
Displacement:	22,000 tons *standard*, 27,000 tons *full load*
Dimensions:	Length: 650 (*pp.*), 737¾ (*o.a.*) feet. Beam: 90 feet. Extreme breadth: 123 feet. Draught: 27 feet
Guns:	20—40 mm. AA. 1 6-barrelled, 5 twin, 4 single) 4—3 pdr. (saluting)
Aircraft:	21 (including a squadron of helicopters)
Catapults:	2 steam
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 78,000=28 kts. (29·5 kts. on trials)
Boilers:	4 Admiralty 3-drum type
Complement:	*Centaur* 1,028 (ship's company, including ship's air complement), 1,330 to 1,390 (including attached air squadron personnel).



CENTAUR (aerial plan view, showing angled deck) 1961, *Official*



CENTAUR (port bow oblique aerial view—helicopter landing on deck) 1960, *Official*

General Notes

Improvements incorporated during construction increased the originally designed displacement figure from 18,300 tons standard. This design is an enlarged version of that of the "Majestic" class with propelling machinery of nearly twice the power to give an extra five knots speed, correcting the inherent faults of the original light carrier type and bringing it more into line with modern fleet aircraft requirements. *Centaur* cost £10,434,000, excluding guns, aircraft and equipment. An "interim" (5½ degrees) or modified form of angled deck arrangement has been installed which necessitated the removal of three twin 40 mm. mounts and the extension of flight deck plating on port side amidships. There are five arrester wires spaced equally along the line of the angled deck *Centaur* was equipped with steam catapults and new arrester gear in 1957, and completed an extensive refit in H.M. Dockyard, Portsmouth, in Mar. 1961. Her pole mainmast has now become the foremast and is stepped on the flight deck before the island. A small sponson has been fitted on the port side right aft.

Class Notes

Of *Centaur*'s two original sister ships, *Albion* was converted into a Commando Carrier in 1961-62, and *Bulwark* was converted into a commando carrier in 1959-60, see previous page.

Of the other five ships of this class originally ordered, *Arrogant*, original *Hermes*, *Monmouth* and *Polyphemus* were cancelled in 1945; and *Hermes* (ex-*Elephant*) was completed to a modified design (see previous page).

Photograph Notes

A starboard quarter oblique aerial view of *Centaur* appears in the 1957-58, 1958-59, and 1959-69 editions, and a starboard broadside view in the 1958-59 to 1961-62 editions.

Disposals of "Majestic" Class

Of the "Majestic" class, *Magnificent* (lent to Canada from 1946 to 1957) is for disposal in 1962; *Powerful* (renamed *Bonaventure*) was completed for Canada; *Majestic* (renamed *Melbourne*) was completed for Australia; and *Terrible* (renamed *Sydney*) was sold to Australia. *Hercules* was sold to India in 1957 for completion and modernisation, and was commissioned for service and renamed *Vikrant* in Mar. 1961. *Leviathan* (suspended in 1946 when almost completed) is for disposal in 1962.

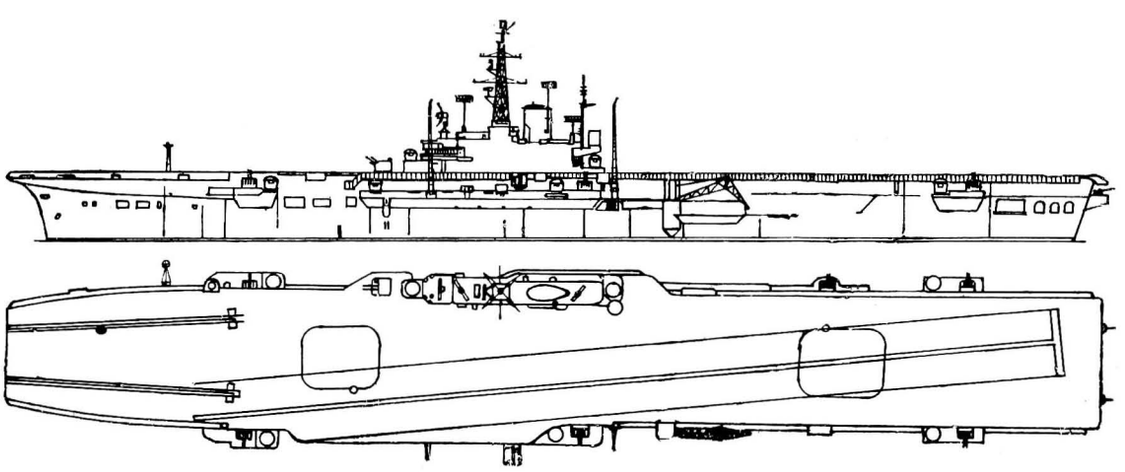
Disposals of "Colossus" Class

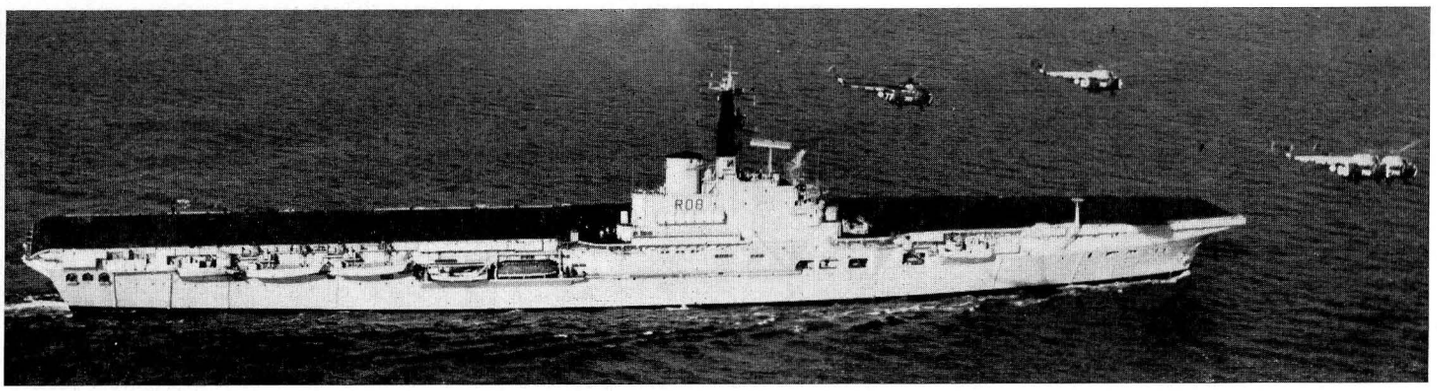
Of the "Colossus" class, *Venerable* (renamed *Karel Doorman*) was sold to Netherlands in 1948, *Colossus* (renamed *Arromanches*) was sold to France in 1951; two were completed as maintenance aircraft carriers—*Perseus* (scrapped in 1958) and *Pioneer* (scrapped in 1954; *Vengeance* was sold to Brazil in 1956 and after being modernised was commissioned under the name *Minas Gerais* in Dec. 1960. *Warrior* was sold to Argentine in July 1958 and was commissioned under the name *Independencia* in Jan. 1959.

Glory was scrapped in 1961, *Ocean* and *Thesus* are for disposal in 1962.

Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.- The 6-barrelled 40 mm. AA. gun abaft the island has been removed.





BULWARK (starboard aerial view)

Added 1962, Official

Commando Carriers

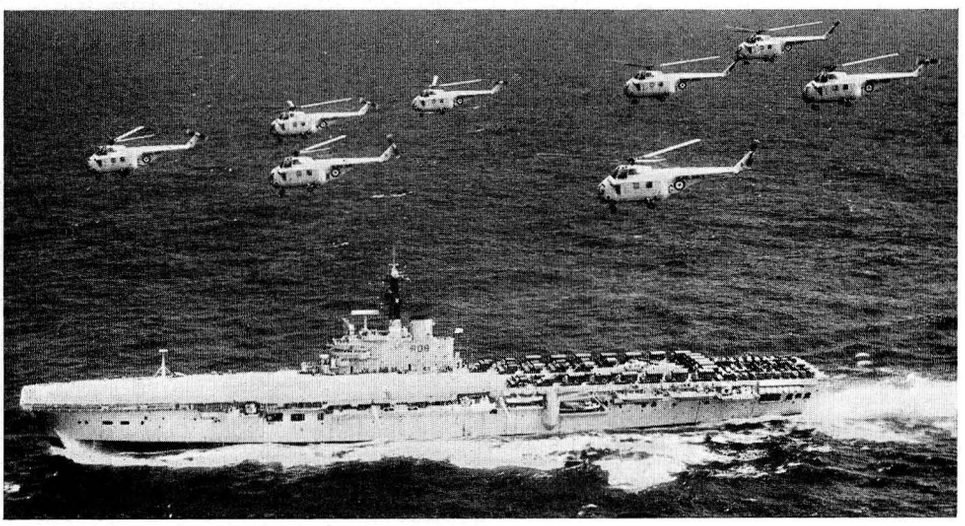
2 Modified " Centaur " Class

	ALBION	**BULWARK**
Name:	*Albion*	*Bulwark*
Deck Letter:	A	B
Pennant No.:	R 07	R 08
Builders:	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne	Harland & Wolff Ltd., Belfast
Engineers:	Wallsend Slipway & Engineering Co. Ltd., Tyne	Harland & Wolff Ltd., Belfast
Laid down:	23 Mar. 1944	10 May 1945
Launched:	6 May 1947	22 June 1948
Completed:	26 May 1954	4 Nov. 1954
Converted:	1961-62	1959-60

Displacement:	23,300 tons *standard*, 27,300 tons *full load*
Dimensions:	Length: 650 (*pp.*), 737¾ (*o.a.*) feet. Beam: 90 feet. Extreme breadth: 123½ feet. Draught: 28 feet
Guns:	*Bulwark*: 18—40 mm. AA. 1 6-barrelled (5 twin, 2 single), 4—3 pdr. (saluting) *Albion*: 8—40 mm. AA. (4 twin) See *Gunnery Notes*
Aircraft:	16 helicopters
Landing Craft:	4 LCA
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 78,000=28 kts. (29·5 kts. on trials)
Boilers:	4 Admiralty 3-drum type
Complement:	*Bulwark:* 1,037 plus accommodation for 600 officers and men of Commando; *Albion:* 1,035 plus 733 Commando (accommodation for 1,923 officers and men)

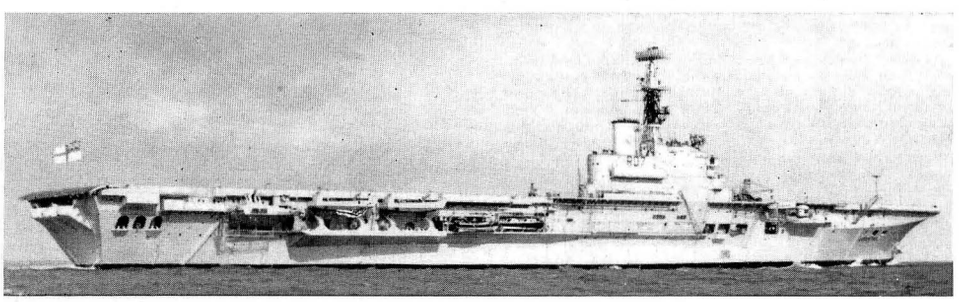
General Notes

Originally cost £9,836,000 and £10,386,000, respectively, excluding guns, aircraft and equipment. Originally sister ships of *Centaur*, see next page. Converted into commando carriers in 1961 (*Albion*) and 1959 (*Bulwark*). A full strength commando is available, which the carriers can quickly transport and land complete with equipment, wherever required. The commando carriers' helicopters are also able to disembark the commando's vehicles. They have on board sufficient stores and fuel to support the commandos in active operations ashore, and can re-embark the unit speedily when required. They not only reinforce the traditionally close association of the Corps of Royal Marines with the Navy, but give these versatile troops greater mobility and usefulness, and enable them to be fully self-supporting. The commando carriers are fully convertible to the anti-submarine role. They are able, at short notice, and entirely within their own resources, to adapt their helicopters for anti-submarine work. *Bulwark*, the first ship of her kind to serve in the Royal Navy, was converted at H.M. Dockyard, Portsmouth, in 1959, commissioned as a commando carrier on 19 Jan. 1960, and after trials and work-up at home and in the Mediterranean in the Spring, she sailed for Singapore, *Albion* entered H.M. Dockyard, Portsmouth, in Dec., 1960, and was taken in hand in Feb. 1961 for conversion which was completed in July 1962. She commissioned on 1 Aug. 1962 for sea trials and work-up preparatory for leaving for the Far East in Nov. to relieve *Bulwark*.



BULWARK (Whirlwind helicopters flying above

1961, Official



ALBION (after conversion)

1962, Wright & Logan

Gunnery Notes

Eight 40 mm. AA. guns were removed during the conversion of *Bulwark* to provide space for four assault landing craft carried at built-in gantries. As converted *Albion* has one twin 40 mm. mounting in each quadrant.

Conversion Notes

It is officially stated that basically *Bulwark* was not changed during her refit, although the fixed wing capability, the arrester wires and catapults were removed. Various alterations and modifications were made to render the ship suitable as an all-helicopter troop carrier with 16 Westland Whirlwind aircraft, which will be replaced at a later date by the Wessex, and four landing Craft (Assault). The ship was fitted with the most extensive air conditioning system in the Royal Navy.

Albion is similar to *Bulwark*, but embodies a number of improvements and is able to carry Wessex helicopters and a larger military force. Her extensive modifications include alteration to the angled flight deck and the removal of catapult and arrester gear.

Engineering Notes

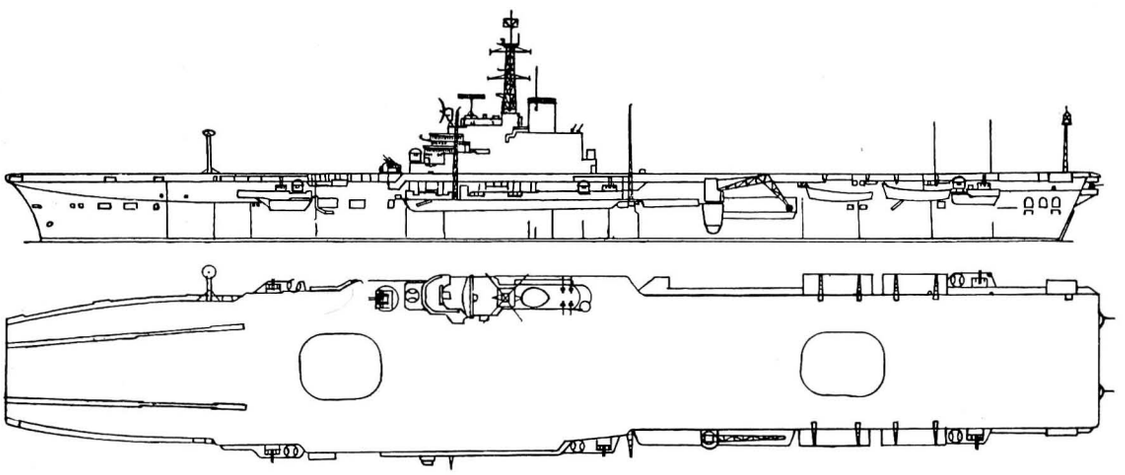
The three-bladed propeller in *Bulwark* was replaced by a four-bladed propeller.

Photograph Notes

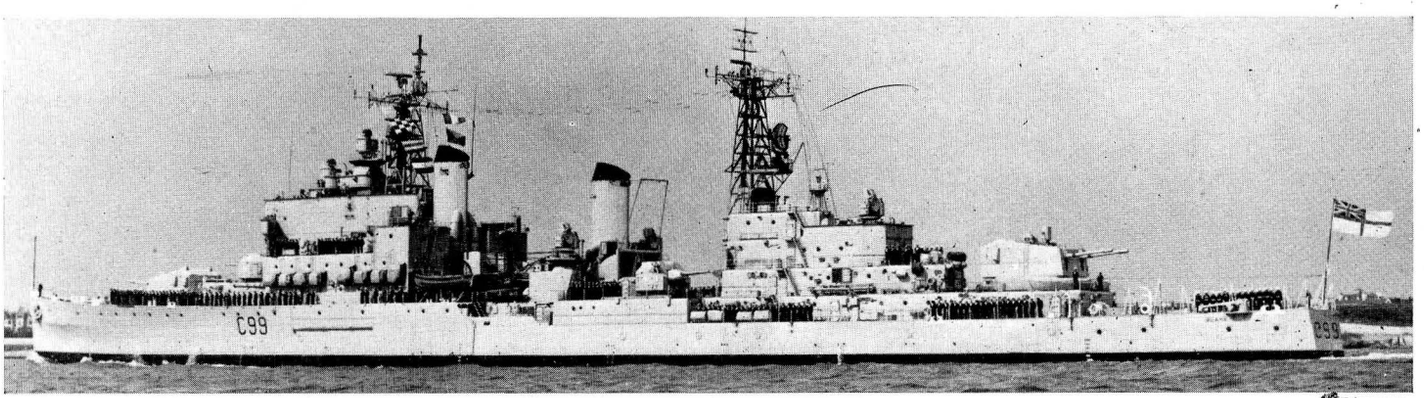
A port bow aerial view of *Bulwark* appears in the 1959-60 edition, a port broadside surface view in the 1958-59 1959-60 editions, and a starboard broadside view in the 1957-58 edition (all before conversion). A port broadside aerial view, and a dead overhead plan view of *Bulwark* after conversion appear in the 1960-61 edition and a starboard surface view, after conversion, in the 1960-61 and 1961-62 editions. Another aerial plan view of *Bulwark* appears in the 1961-62 edition. An aerial plan view, showing angled deck, of *Albion*, before consion, appears in the 1960-61 edition, and a port bow oblique aerial view of *Albion* before conversion appears in the 1957-58, 1958-59 and 1959-60 editions.

Notes to Drawings

Port elevation and plan of *Bulwark*. Drawn in 1960. Scale: 128 feet=1 inch.



CRUISERS



BLAKE

1962, *Wright & Logan*

3 " Tiger " Class

BLAKE (ex-*Tiger*, ex-*Blake*) **TIGER** (ex-*Bellerophon*)
LION (ex-*Defence*)

Displacement:	9,550 tons *standard* (11,700 tons *full load*)
Dimensions:	Length: 538 (*pp.*), 549 (*w.l.*), 555½ (*o.a.*) feet. Beam: 64 feet. Draught: 21 feet
Guns:	4—6 inch (twin), 6—3 inch (twin new pattern)
Armour:	See notes
Machinery:	4 Parsons geared turbines. 4 shafts. S.H.P.: 80,000=31·5 kts. (*max.*)
Boilers:	4 Admiralty 3-drum type
Complement:	*Blake*: 716 (52 officers, 664 ratings); *Lion*: 717 (52 officers, 665 ratings); *Tiger*: 698 (53 officers, 645 ratings); 900 (war) official figures

General Notes

This class of cruiser was designed to provide close cover and anti-aircraft support for convoys and aircraft carrier groups and to provide support for assault landings. They have the versatility to act in a number of other roles and are equipped to play an active part in cold war and policing duties in any part of the world.

As completed these ships exceed their originally designed displacement of 8,000 tons. Work on them was stopped in July 1946, but while construction on all three was suspended, work in relation to the preparation of equipment was progressed. Decision to proceed with the completion of these three cruisers was officially announced on 15 Oct. 1954, and they were actually dismantled ready for resumption of construction to a new design in 1955. It is officially estimated that *Tiger* cost £13,113,000, *Lion* cost £14,375,000 and *Blake* cost £14,940,000

Gunnery Notes

As originally designed the ordnance lincluded nine 6 inch, ten 4 inch and 16 smaller, but the ships now carry new fully automatic guns of very advanced design. The main armament now consists of four 6 inch guns, mounted in two twin turrets, which are equally effective in the surface and anti-aircraft roles. The rate of fire of these guns is twenty rounds per minute, more than twice that of any previous cruiser. The secondary armament consists of six 3 inch guns mounted in three twin turrets. These guns are capable of a rate of fire of 120 rounds per minute, comparable with the light anti-aircraft guns of the Second World War.

The ships are fitted with a comprehensive gun direction system which enables all the turrets to be controlled by radar.

Six inch turret weights 163 tons, 3 inch turret weights 38½ tons.

Operational Notes

The ships are controlled from a totally enclosed bridge the first ever fitted in British cruisers. A 200-line automatic telephone exchange facilitaties internal communications.

Engineering Notes

The main machinery is largely automatic and can be remotely controlled.

Electrical Notes

Four turbo-generators provide over 4,000 kilowatts of alternating current, the first time this type of power has been used in British cruisers.

Torpedo Notes

Were originally designed to have eight 21-inch torpedo tubes in two quadruple mountings.

Habitability Notes

Complete air-conditioning is installed to ensure a comfortable atmosphere in any climate. A large amount of electrical equipment is provided for cooking, deck-cleaning, paint-scaling and television, cinema and radio rediffusion installations. Accommodation is of a very much higher standard than in any previous cruisers. Each man has a bunk. Fluorescent lighting is installed. Separate dining halls.

Photograph Notes

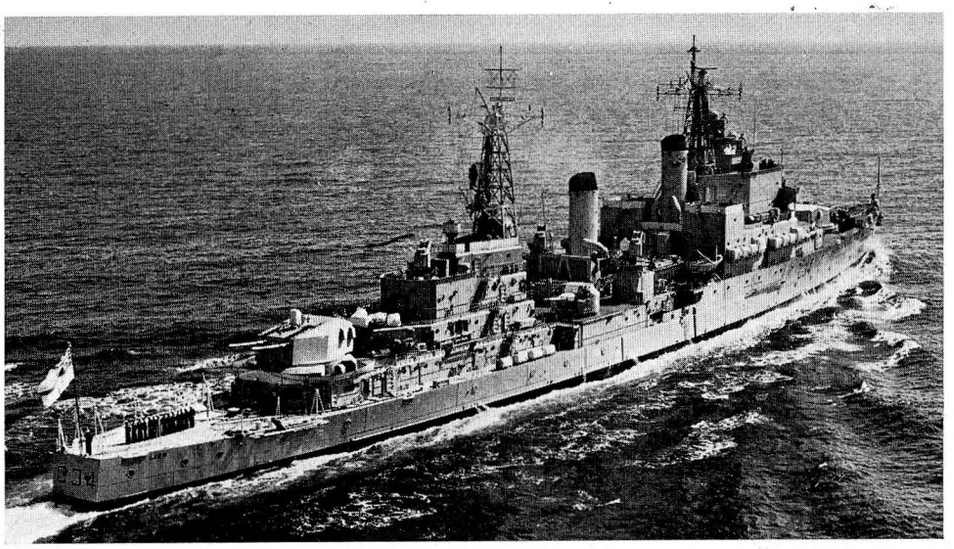
A large broadside view of *Tiger*, showing midship details appears in the 1959-60 edition, a port quarter view of *Tiger* in the 1959-60 and 1960-61 editions, a dead overhead aerial plan view of *Tiger* in the 1960-61 editions, a starboard broadside view of *Lion* in the 1960-61 and 1961-62 editions, and a port broadside view of *Blake* and a starboard bow oblique aerial view of *Blake* in the 1961-62 edition.

Name	*Laid down*	*Launched*	*Completed*
Blake	17 Aug. 1942	20 Dec. 1945	8 Mar. 1961
Lion	24 June 1942	2 Sep. 1944	20 July 1960
Tiger	1 Oct. 1941	25 Oct. 1945	18 Mar. 1959

Pennant No.	*Name*	*Builders and Engineers*
C 99	*Blake*	Fairfield S. B. & Eng. Co. Ltd., Govan
C 34	*Lion*	Scotts S. B. & Eng. Co. Ltd., Grennock*
C 20	*Tiger*	John Brown & Co. Ltd., Clydebank

* To launching stage. Completed by Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne. Main Machinery completed by the Wallsend Slipway & Engineering Co. Ltd., Wallsend-on-Tyne.

(Officially stated in the 1961-62 Navy Estimates).



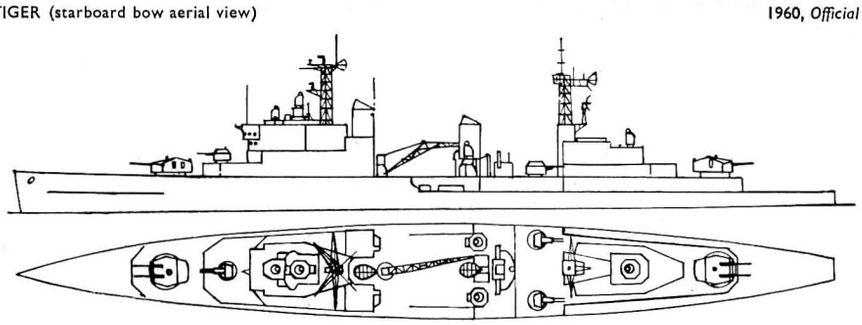
LION (starboard quarter oblique aerial view)

1962, *Official*



TIGER (starboard bow aerial view)

1960, *Official*



Armour Notes.

Protection includes 3½ to 3¼ inch belt, 4 inch conning tower 1 to 2 inch turrets and 2 inch deck.

Class Notes

Hawke, of this class, laid down at H.M. Dockyard, Portsmouth in Aug. 1944, was cancelled in 1946, as was *Bellerophon* (ex-*Tiger*) a cruiser of enlarged design, ordered from Vickers-Armstrongs.

Nomenclature Notes

The name of *Defence* was changed to *Lion* in 1957 (announced by Admiralty 8 Oct. 1957).

Notes to Drawing

Port elevation and plan. Redrawn in 1960. Scale. 128 feet=1 inch.

Recent Disposals of older Cruisers

Of the " Colony " class, *Jamaica* was scrapped in 1960. *Kenya* was scrapped in 1962, and *Bermuda*, *Gambia* and *Mauritius* are surplus to naval requirements and are to be disposed of in the near future.

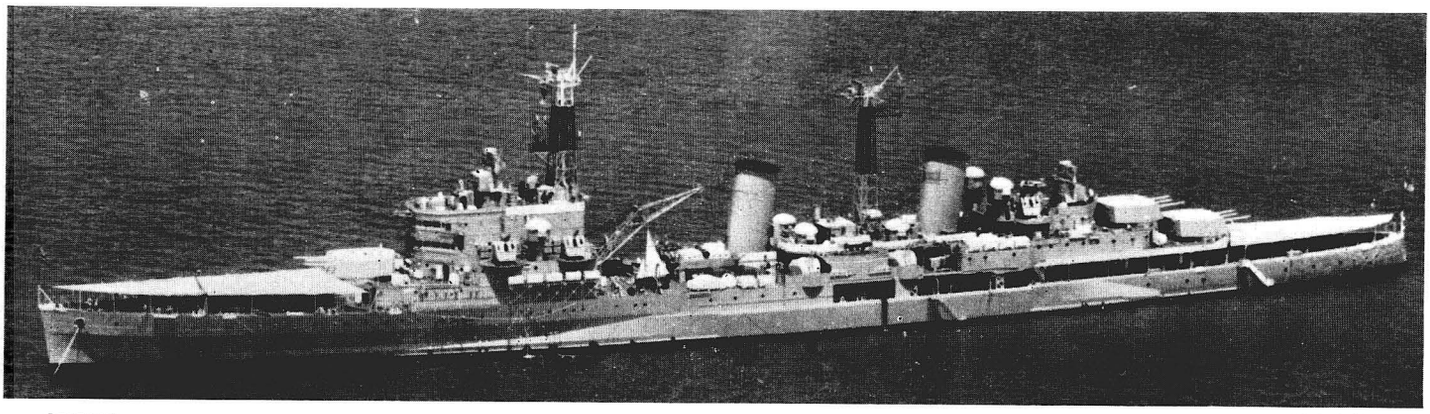
Of this class, *Nigeria* was sold to the Indian Navy in 1954. Two others, *Fiji* and *Trinidad*, were lost in action during the Second World War.

(See full particulars, notes, photographs, plan and elevation drawings, and silhouettes in the 1961-62 and earlier editions).

Of the " Ceylon " class, the *Newfoundland* was transferred to the Peruvian Navy at Portsmouth on 30 Dec. 1959 and renamed *Almirante Grau*, and the *Ceylon* was transferred to the Peruvian Navy at Portsmouth on 9 Feb. 1960 and renamed *Coronel Bolognesi*.

Of later cruisers, *Superb*, surplus to naval requirements, was scrapped in 1961, and *Swiftsure*, which was being reconstructed, but on which work was suspended, is also to be scrapped in 1962.

Cruisers—*continued*



BELFAST

1962, *Official*

1 Improved " Southampton " Class

BELFAST

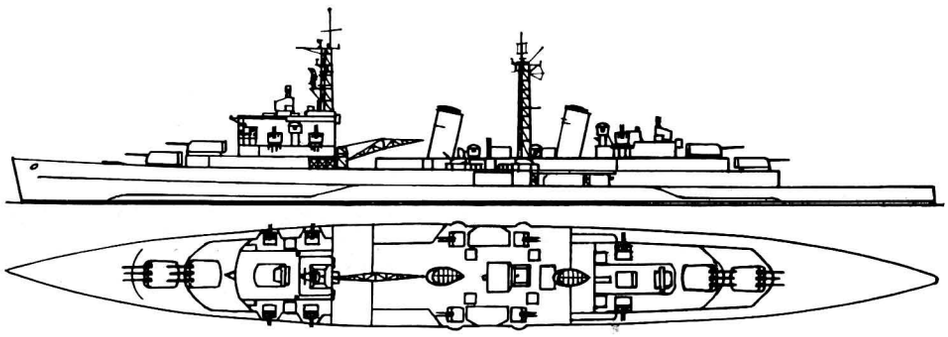
Pennant No.:	C 35
Builders:	Harland & Wolff, Ltd., Belfast
Laid down:	10 Dec. 1936
Launched:	17 Mar. 1938
Completed:	3 Aug. 1939
Displacement:	11,550 tons *standard* (14,930 tons *full load*)
Dimensions:	Length: 579 (*pp.*), 613½ (*o.a.*) feet, Beam: 69 feet. Draught: 17 feet (23 feet *max.*)
Guns:	12—6 inch, 8—4 inch AA., 12—40 mm. AA.
Tubes:	Removed (see *Torpedo Notes*)
Armour:	5"—3" side, 4" C.T., 2½" turrets
Machinery:	Parsons geared turbines. 4 shafts. S.H.P.: 80,000=32·5 kts. (*max.*) originally designed, 31 kts. service, 30 kts. present sea speed
Boilers:	4 Admiralty 3-drum type
Oil fuel:	2,260 tons
Radius:	8,000 miles at 14 kts.
Complement:	710 (52 officers, 658 men) in peacetime

General Notes

Improved " Southampton " type. The largest cruiser in the Royal Navy. Designed displacement was 10,000 tons with beam of 63½ feet, since increased. Built under 1936 Estimates. Internal subdivision is exceptionally complete. Was practically rebuilt after being heavily damaged by a mine in the early months of the Second World War, beam being increased and other alterations made.

Gunnery Notes

Until her 1955-59 reconstruction the light anti-aircraft armament comprised two 8-barrelled 2 pdr. four 4-barrelled 2 pdr. and nine single 40 mm.



Torpedo Notes

The 6—21 inch torpedo tubes originally mounted in triple banks were removed during the 1956-59 refit.

First Reconstruction Notes

When she was mined her back was broken, and in the course of repairs, to strengthen her, she was fitted with an external bulge adding approximately 2½ feet to her beam. This bulge roughly covered the same areas as the armour belt above the water line. Besides providing additional under-water protection, it improved the ship's stability, thereby enabling her to retain her entire 6-inch armament despite extra top weight having been added.

Second Reconstruction Notes

It was officially announced in 1955 that the *Belfast* was to undergo reconstruction and modernisation. This was completed on 12 May, 1959. Extensive modifications include lattice masts, a new operations room, new type covered bridge, modernised armament and improved habitability. This reconstruction cost £5,553,000.

Note to Drawing

Represents *Belfast* after reconstruction. Port elevation and plan. Redrawn in 1959. Scale: 128 feet=1 inch.

Armour Notes

Reported to have been designed to withstand 8-inch shell fire. Armour extends over entire length of citadel, and protective deck right across ship's breadth above magazines.

Photograph Notes

A dead broadside view of *Belfast* appears on page 472 (Addenda) of the 1959-60 edition. A starboard broadside view of the ship before reconstruction appears in the 1957-58 and 1958-59 editions, and a port brodside view after reconstruction in the 1959-60 to 1961-62 editions.

Class Notes

Sister ship *Edinburgh* was lost in action on 2 May, 1942.



SHEFFIELD

Added 1960, *Official*

1 " Southampton " Class

SHEFFIELD

Pennant No.:	C 24
Builders:	Vickers-Armstrongs Ltd., Tyne
Laid down	31 Jan. 1935
Launched:	23 July 1936
Completed:	25 Aug. 1937
Displacement:	9,100 tons *standard* (12,400 tons *full load*)
Dimensions:	Length: 558 (*pp.*), 584 (*w.l.*), 59½ (*o.a.*) feet. Beam: 61⅔ (*w.l.*), 64 (*o.a.*) feet. Draught: 17 (*mean*), 21 (*max.*) feet
Guns:	9—6 inch, 8—4 inch AA., 18—40 mm. AA.
Tubes:	6—21 inch (tripled)
Armour:	4"—3" side, 4" C.T., 2"—1" turrets, 2" deck
Machinery:	Parsons geared turbines. 4 shafts. S.H.P.: 75,000=32·5 kts. (designed)
Boilers:	4 Admiralty 3-drum type
Oil fuel:	1,970 tons
Radius:	7,000 miles at 14 kts.
Complement:	706-717 (peace)

General Notes

Built under the 1934 Navy Estimates. Ordered on 17 Dec. 1934. Protection is somewhat better than in previous classes. Special ventilating trunks have been installed, with openings on either side of hull at break of deck level abreast of " B " turret. In 1959-60 she was refitted and put in a state of preservation in operational reserve. With the maintenance ship *Mull of Galloway* she relieved the battleship *Vanguard* as joint Headquarters of the Reserve Fleet, Portsmouth.

Gunnery Notes

At end of the Second World War " X " triple 6-inch turret was removed and replaced by 40 mm. anti-aircraft guns. Centre guns of each 6 inch turret is mounted slightly farther back than other two. Each turret weighs 135 tons. Each gun weighs 7 tons. Shell fired weights 1 cwt. New 4 inch directors abreast forefunnel.

Reconstruction Notes

Reconstructed and modernised, modifications including new bridge structure rebuilt with revised armament arrangements and air conditioning, new lattice foremast, but tripod mainmast retained. She underwent a long refit in 1949-51 and was again extensively modified June 1956-June 1957.

Anti-Radiation Notes

The ship is fitted with several modern devices to help her to fight in areas of atomic radiation. Her bridge is enclosed and she is fitted with powerful pre-wetting systems.

Engineering Notes

Engined by Vickers-Armstrongs Ltd., Barrow. Each propeller weights 12½ tons. Sea speed is about 32 kts.

Appearance Notes

Larger than " Colony " class with raked funnels and former hangar structure. Lattice foremast and tripod mainmast.

Photograph Notes

An aerial photograph of *Birmingham* appears in the 1959-60 edition, a larger photograph of *Sheffield* in the 1957-58 to 1959-60 editions, and photographs of *Glasgow* and *Newcastle* in the 1957-58 and earlier editions.

Drawing Notes

A plan and elevation drawing of this class appears in the 1959-60 edition. Also see port elevation silhouette drawing on page 5 of this edition.

Class Notes

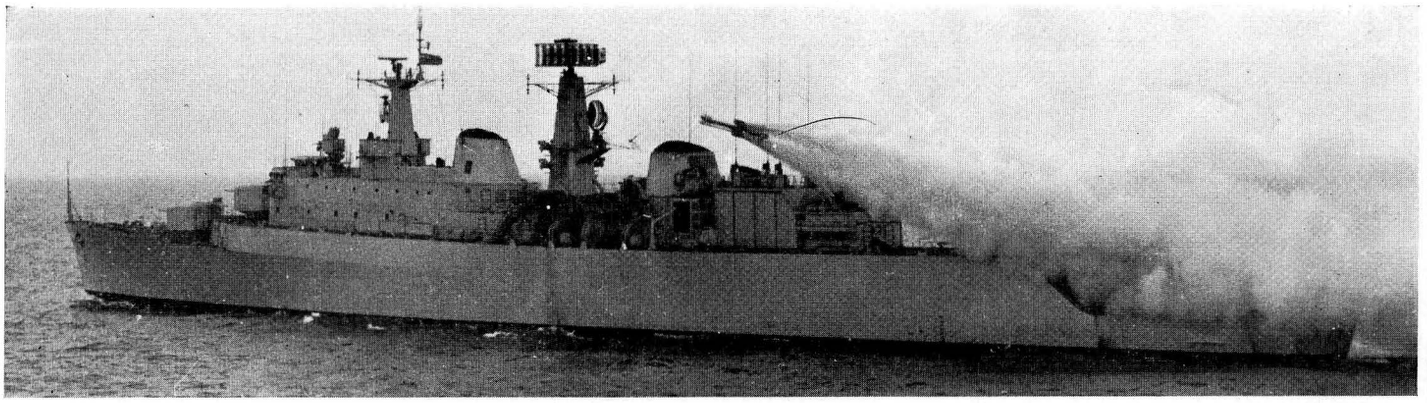
Sister ships *Gloucester*, *Manchester* and *Southampton* were lost during the Second World War.

Recent Disposals

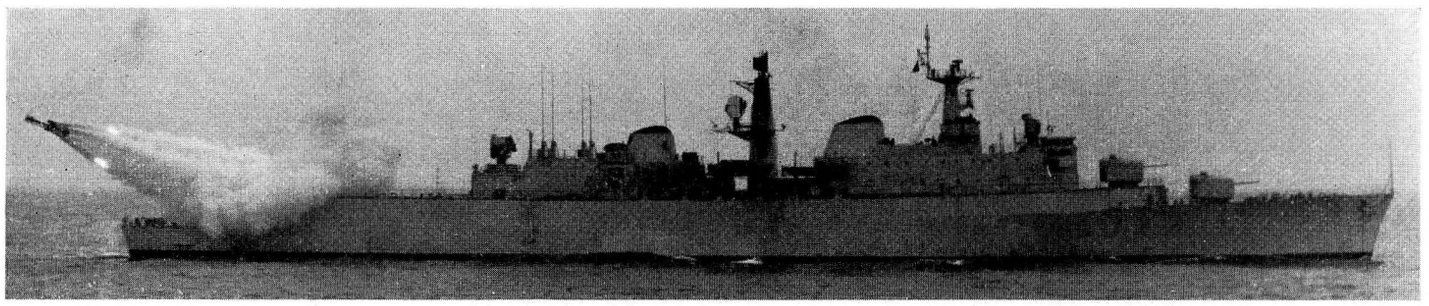
Sister ships *Glasgow* and *Liverpool* were scrapped in 1958, *Newcastle* was scrapped in 1959 and *Birmingham* was scrapped in 1960.

The old cruiser *Cumberland* was scrapped in 1960.

GUIDED MISSILE ARMED DESTROYERS



DEVONSHIRE, with "Seaslug" guided missile roaring away, ahead of the ship, from the twin launcher — 1962, *Official*



DEVONSHIRE, prototype of her class, firing a "Seaslug" guided missile for the first time — 1962, *Official*

6 " County " Class

DEVONSHIRE
FIFE
GLAMORGAN
HAMPSHIRE
KENT
LONDON

Displacement:	5,200 tons *standard* (6,200 tons *full load*)
Dimensions:	505 (*pp.*), 520½ (*o.a.*) × 54 × 16 (*mean*), 20 (*max.*) feet
Guns:	4—4·5 inch (two twin turrets forward); 4 saluting
Aircraft:	1 Westland Wessex helicopter
Guided weapons:	1 twin launcher aft for " Seaslug " ship-to-air guided missiles 2 quadruple launchers for " Seacat " close range ship-to-air missiles
Machinery:	2 sets geared steam turbines. 2 shafts. S.H.P.: 60,000, boosted by gas turbines = 32·5 kts.
Boilers:	2 Babcock & Wilcox
Complement:	440 (33 officers, 407 ratings)

General Notes

Two fleet escorts, bigger than the " Daring " class, and designed to embody the newest developments in the destroyer field, were projected under the 1955-56 Navy Estimates, and it was subsequently found possible to design these vessels with guided weapons instead of with anti-aircraft guns. They will also carry very modern anti-submarine, radar and communications equipment. Two more vessels of the super-destroyer type were provided for under the 1956-57 Navy Estimates. It was officially stated in the 1957-58 Navy Estimates that the design for for these vessels had now emerged as larger than the present conventional types of Fleet Escort. They will have a very powerful armament and an endurance which will give them a considerable capacity for operating on their own. Two more ships of the class were ordered under the 1961-62 Navy Estimates. All six ships will be fitted with stabilisers.

Torpedo Notes

The helicopter will carry a new type of homing torpedo to combat submarines

Anti-Submarine Notes

In addition to anti-submarine torpedoes and an anti-submarine helicopter, the ships will be fitted with the latest underwater detection equipment for anti-submarine work.

Operational Notes

Ships of this class will have three main roles :—

1. Escort duties with a task group, including the ability to provide guided weapon anti-aircraft defence for the group and to augment its anti-submarine capability;
2. Operations as part of a task unit of light forces with the ability to bombard in support of land forces and to attack light forces with gunfire;
3. Police duties in peace-time in any part of the world.

The ships are designed to be able to operate in " fall out " areas after an atomic attack. As many deck installations will be under cover the vessels will have clean lines, and this will facilitate " washing down " in the event of attack by nuclear weapons.

Gunnery Notes

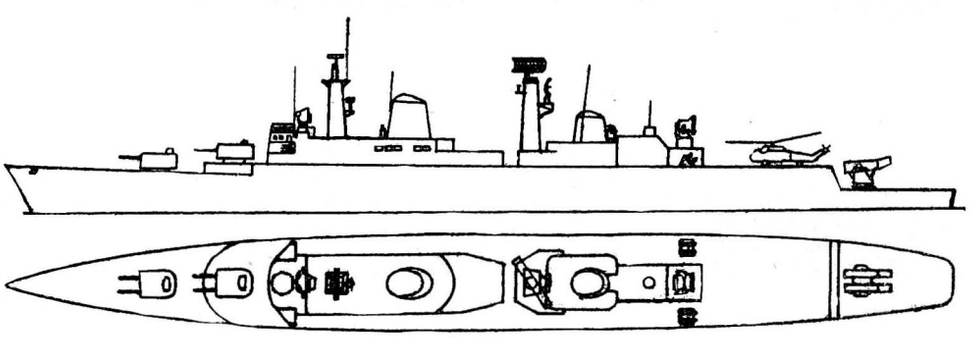
The 4—4·5 inch guns are radar controlled, fully automatic dual-purpose quick-firing weapons for attack and defence against ships and aircraft.

Engineering Notes

These new super destroyers are the first vessels of their size to have COSAG propulsion (combined steam and gas turbine) machinery plants of exceptionally compact and light design, enabling the amount of fighting equipment to be increased. The machinery installation is of a novel type with steam and gas turbines geared to the same propeller shaft. The gas turbines provide a high concentration of compact power and is used to supplement the steam power for high speed work. They are also able to develop their full power from cold within a few minutes, providing unprecedented mobility, and enabling ships lying in harbour without steam to get under way instantly in an emergency.



DEVONSHIRE, at speed on the first day of the initial trails of the new "County" class — 1962, *Official*



Guided Weapons Notes

Officially stated that the four vessels will be the first to join the Fleet armed with the guided missile " Seaslug " for long ranges (the launching ramp is mounted on the quarter deck) and " Seacat " weapons for short ranges (launchers for which are mounted abaft the after funnel).

Helicopter Notes

The landing space for the helicopter carried by this class of ship is at the after end of the upper deck where anti-submarine weapons would be normally mounted. The Westland Wessex aircraft is the first helicopter to be fitted as a complete " hunter killer." It will carry dipping asdic and homing torpedoes.

Radar Notes

Each ship will be exceptionally well equipped with the latest " watching " and " warning " radar.

Notes to Drawing

Port elevation and plan. Drawn in 1962. Scale: **104 feet** = 1 inch.

Habitability Notes

All vessels are to have the latest accommodation standards and will be fully air-conditioned.

Photograph Notes

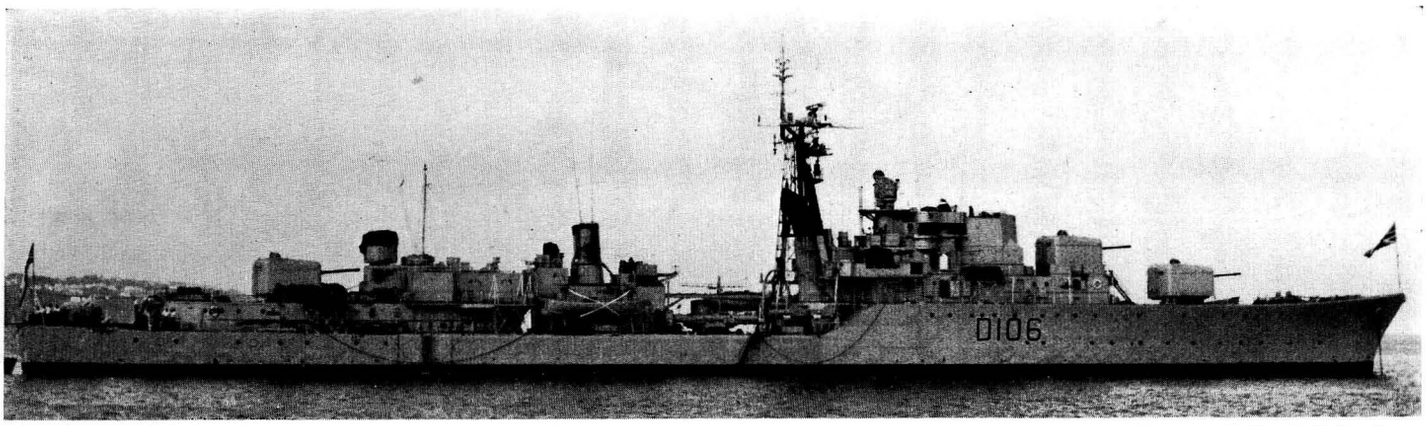
A starboard bow view of the official model appears in the Addenda of the 1959-60 edition, and a starboard quarter view in the 1959-60 and 1960-61 editions.

Appearance Notes

First design provided for long, low-lying vessels with two widely spaced, squat raked funnels, two stump masts, main guns forward, guided weapon on the quarter deck, and ant-submarine weapons on the break of the forecastle deck aft; but there have been several recastings of the design.

Name	*No.*	*Builders*	*Laid down*	*Launched*	*Completed*
Devonshire	D 02	Cammell Laird & Co. Ltd., Birkenhead	9 Mar. 1959	10 June 1960	Feb. 1962
Fife	D 20	Fairfield S. B. & Eng. Co. Ltd., Govan	Mar. 1962		
Glamorgan	D 19	Vickers-Armstrongs Ltd., Newcastle-on-Tyne	July 1962		
Hampshire	D 06	John Brown & Co. (Clydebank) Ltd., Glasgow	24 Mar. 1959	16 Mar. 1961	
Kent	D 12	Harland & Wolff Ltd., Belfast	Mar. 1960	27 Sep. 1961	
London	D 16	Swan, Hunter & Wigham Richardson Ltd., Wallsend	Feb. 1960	7 Dec. 1961	

DESTROYERS



DECOY (after refit with " Seacat " and superstructure aloft after funnel) 1962, *courtesy Godfrey H. Walker, Esq.*

8 " Daring " Class

DAINTY **DELIGHT** (ex-*Disdain*, ex-*Ypres*)
DARING **DIAMOND**
DECOY (ex-*Dragon*) **DIANA** (ex-*Druid*)
DEFENDER (ex-*Dogstar*) **DUCHESS**

Displacement:	2,800 tons *standard* (3,600 tons *full load*) revised figures
Dimensions:	366 (*pp.*) 375 (*w.l.*), 390 (*o.a.*) × 43 × 14 (*mean*), 17 (*max.*) feet
Guns:	6—4.5 inch, in twin turrets, two forward and one aft, 4 or 6—40 mm. Bofors AA. (See *Gunnery Notes*)
Tubes:	5—21 inch, in one pentad mounting. (See *Torpedo Notes*)
Guided weapons:	" Seacat " in *Decoy*, *Diamond*, *Diana* and *Duchess* (see *Guided Missile Notes*)
A/S weapons:	Squid triple-barrelled depth charge mortar
Machinery:	Parsons double reduction geared turbines. English Electric Co. design in Yarrow ships. 2 shafts. S.H.P.: 54,000=34·75 kts. (*designed*), 30·5 kts. sea speed
Boilers:	2 Foster-Wheeler in *Dainty*, *Defender*, *Diamond* and *Duchess* 2 Babcock & Wilcox in *Daring*, *Decoy*, *Delight* and *Diana*
Radius:	3,000 miles at 20 kts.
Complement:	308 (*Daring* and *Diamond* as leaders) 297 *Diana*, 295 *Decoy* and *Delight*, 286 *Dainty*. 278 (others)

General Notes

These destroyers can perform a number of roles including cruiser reconnaissance, and act as anti-submarine or anti-ship craft. All are fitted as leaders. They constitute an expansion and merging of the " Weapon " and the " Battle " design with increased armament, and were the largest destroyers ever built for the Royal Navy. Of all-welded hull construction. The basic plan was a war-time design, although they incorporated improvements subsequently devised. They represent a most ingenious and comprehensive light warship class. Habitability and layout of accommodation are of a high standard. They have improved anti-aircraft and anti-submarine systems. Cost £2,047,000 to £2,880,000 each.

Guided Missile Notes

Decoy, *Diamond*, *Diana* and *Duchess* have been or are being fitted, and the remaining ships of the class will eventually be fitted, with " Seacat " surface-to-air guided missiles abaft the second funnel above the mess deck as close range anti-aircraft armament.

Gunnery Notes

The 4·5 inch turrets are of a new type, fully automatic and radar controlled. The 40 mm. twin mountings abreast c.t. are also fully automatic and radar controlled. The 40 mm. twin mounting abaft second (visible) funnel is semi-automatic. In 1959 *Decoy* had her after twin Bofors removed and replaced by a deckhouse support for " Seacat " guided missles. *Duchess*, as leader, has 4—3 pdr. saluting guns on the after 4·5 inch gun deck.

Torpedo Notes

These ships originally mounted 10—21 inch torpedo tubes, but the after bank of five tubes was removed in 1958-59 and replaced by a deck house for extra mess accommodation and " Seacat " guided missile support.

Engineering Notes

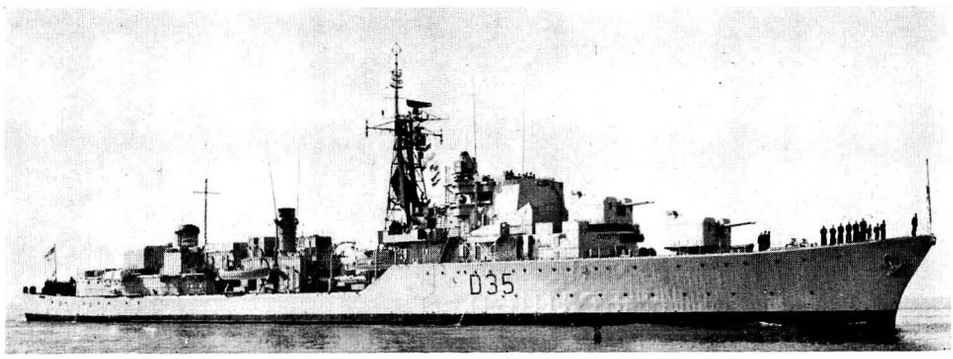
The main propelling machinery is of advanced design developed by PAMETRADA (Parsons and Marine Engineering Turbine Research and Development Association) and manufactured by Wallsend Slipway & Engineering Co. Ltd., in *Daring*, and by builders in others. Steam conditions were the highest used in ships of the Royal Navy, the boilers being designed for superheat control. Steam pressure 650 lbs. per sq. in. Temperature 850 deg. F.

Electrical Notes

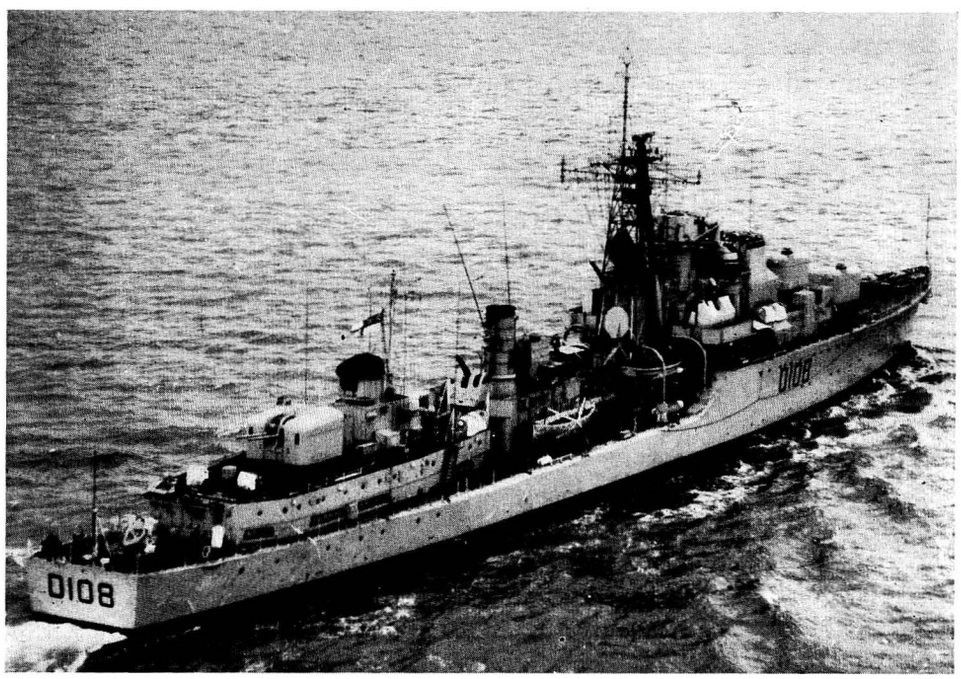
All-electric galleys, laundry and fluorescent lighting. In four ships, *Decoy*, *Diamond*, *Diana* and *Duchess*, the electrical plant differs from previous practice in ships of the Royal Navy in that it is an alternating current installation, operating at 440 volts, 3-phase, 60-cycles per second. Remaining four ships, *Dainty*, *Daring*, *Defender* and *Delight* have direct current at 220 volts.

Appearance Notes

Duchess has a new deckhouse abaft the after funnel. In *Decoy* the deckhouse replacing the after tubes is built out with a platform reaching the ship's sides, supported by light stanchions, for " Seacat " guided missile support.



DIAMOND (after refit) 1961, *Wright & Logan*



DAINTY (starboard quarter aerial view) 1960, *Official*

Modernisation Notes

Dainty, *Daring*, *Defender* and *Delight* are to be modernised in 1962-63.

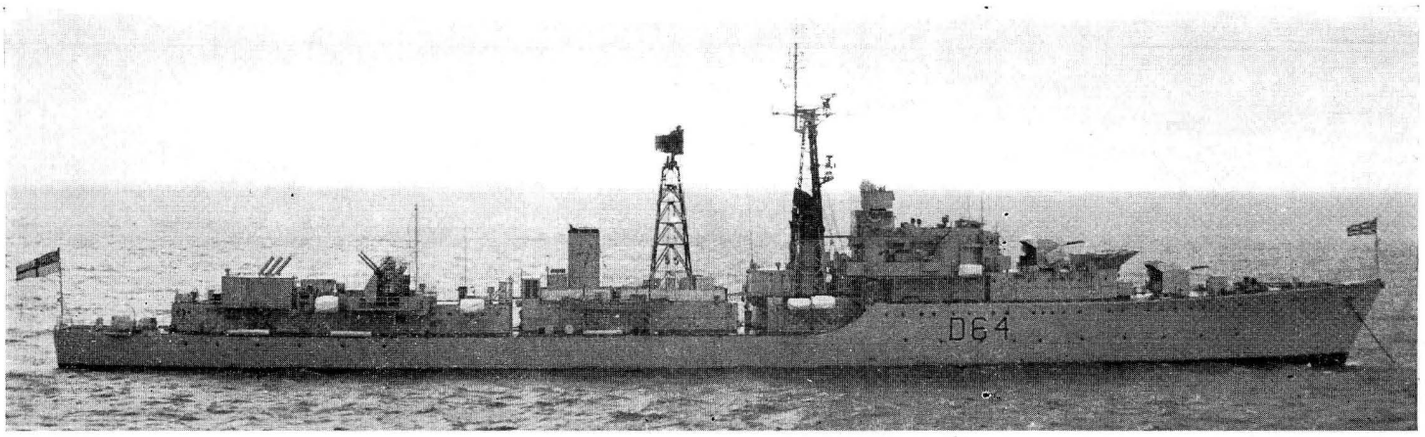
Class Notes

Eight other units of this class ordered under the Second World War Construction Programme but cancelled after cessation of hostilities were *Danae*, original *Decoy*, original *Delight*, *Demon*, *Dervish*, *Desire*, *Desperate* and *Doughty*.

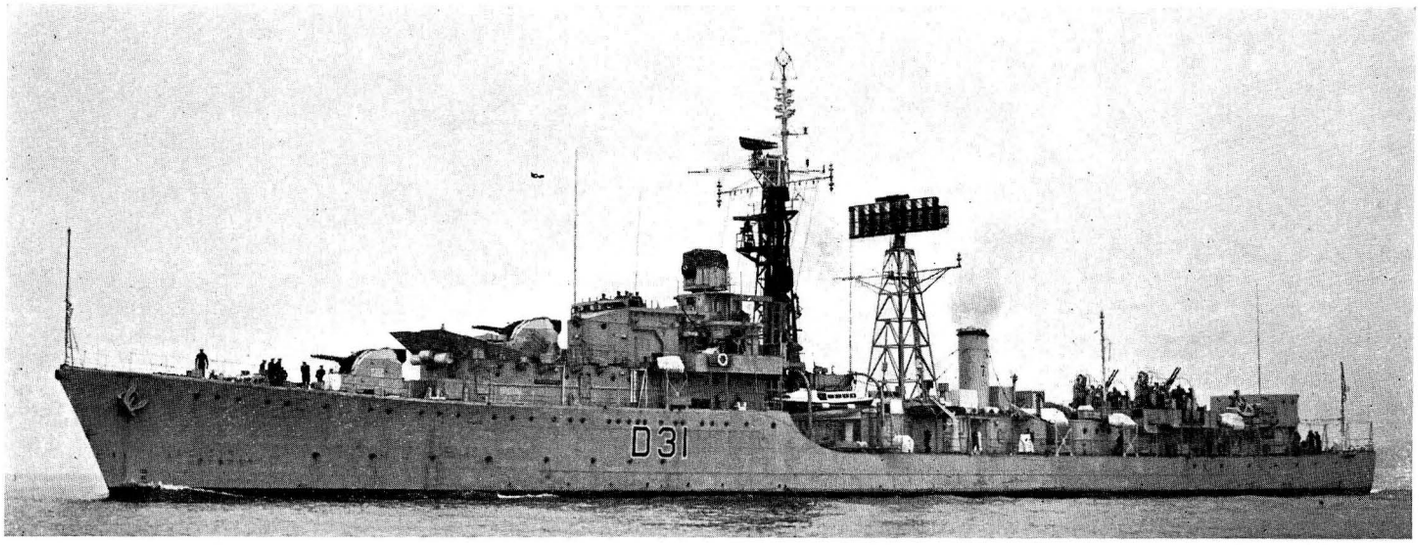
Photograph Notes

Photographs of *Daring* and *Diamond* (before refit) appear in the 1957-58 edition; and a port bow oblique aerial view of *Duchess* appears in 1957-58 (Diamond Jubilee) and 1958-59 editions. Photographs of *Decoy* and *Defender* appear in the 1959-60 edition. A port bow oblique aerial view of *Diana* (before refit, with ten tubes) appears in the 1960-61 edition. A starboard broadside surface view of *Delight*, after refit, appears in the 1960-61 and 1961-62 editions.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 108	*Dainty*	J. Samuel White & Co. Ltd., Cowes	17 Dec. 1945	16 Aug. 1950	26 Feb. 1953
D 05	*Daring*	Swan, Hunter & Wigham Richardson	29 Sep. 1945	10 Aug. 1949	8 Mar. 1952
D 106	*Decoy*	Yarrow & Co. Ltd., Scotstoun	22 Sep. 1946	29 Mar. 1949	28 Apr. 1953
D 114	*Defender*	Alex. Stephen & Sons, Ltd., Govan	22 Mar. 1949	27 July 1950	5 Dec. 1952
D 119	*Delight*	Fairfield S.B. & Eng. Co. Ltd., Govan	5 Sep. 1946	21 Dec. 1950	9 Oct. 1953
D 35	*Diamond*	John Brown & Co. Ltd., Clydebank	15 Mar. 1949	14 June 1950	21 Feb. 1952
D 126	*Diana*	Yarrow & Co. Ltd., Scotstoun	3 Apr. 1947	8 May 1952	29 Mar. 1954
D 154	*Duchess*	John I. Thornycroft & Co. Ltd., Woolston	2 July 1948	9 Apr. 1951	23 Oct. 1952



SCORPION (after conversion—Limbo aft) starboard broadside view — 1960, *Official*



BROADSWORD (after conversion—Squids aft) port bow view — 1959, *Wright & Logan*

Fleet Radar Pickets

Converted Destroyers

3 " Weapon " Class

BROADSWORD
CROSSBOW

SCORPION (ex-*Tomahawk*, ex-*Centaur*)

Displacement:	2,280 tons *standard* (2,935 tons *full load*), officially revised figures
Dimensions:	341½ (*pp.*), 352 (*w.l.*), 365 (*o.a*) × 38 × 13¼ (*mean*), 17 (*max.*) feet
Guns:	4—4 inch (in twin mounts), 6—40 mm. AA.
A/S weapons:	*Scorpion:* 1 " Limbo " three-barrelled depth bomb mortar. *Broadsword, Crossbow:* 2 " Squid " triple-barrelled depth charge mortars.
Tubes:	Removed. (See *Torpedo Notes*)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts. (designed), 30·75 kts. sea speed
Boilers:	2 Foster-Wheeler, with controlled superheat of 750 degrees F. and working pressure of 430 lb. per sq. inch
Radius:	5,000 miles at 15 kts.
Complement:	234 (as Leader, 256)

General Notes

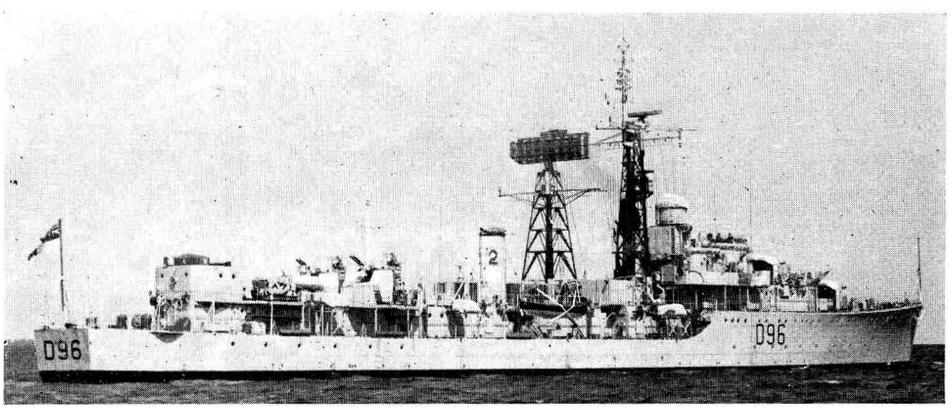
These destroyers were originally armed and equipped as fleet anti-submarine escorts. They embody novel features in ship and engine design. Allthree ships are fitted as Leaders. Fifteen more destroyers of this type were cancelled at the end of the Second World War at least three of which were actually launched before construction was abandoned. Cancelled names were *Carronade*, *Claymore*, *Culverin*, *Cutlass*, *Dagger*, *Dirk*, *Grenade*, *Halberd*, *Howitzer*, *Longbow*, *Musket*, *Poinard*, *Rifle*, *Spear* and *Sword*, i.e. 4 of 1st Flotilla, 8 of 2nd Flotilla and 3 of 3rd Flotilla. Thethreeexisting vessels were originally, like the others, a 6—4 inch design in 3 twin shields. The anti-submarine version with only 4—4 inch guns was a revised design for the four launched hulls.

Gunnery Notes

Crossbow and *Scorpion* had their 4-inch disposed in " A " and ".B " positions but in *Battleaxe* and *Broadsword* they were originally mounted in " A " and " X " positions. The 40 mm. Bofors AA. pieces are of the newest type and radar controlled similar to those in the " Daring " and " Battle " classes. *Scorpion* had a new type " A " turret fixed experimentally, but she subsequently reverted to her usual " A " turret (1955). During reconstruction and conversion in 1958-59 the control equipment in all four ships was brought up to date.

Recent Disposal

Battleaxe, badly damaged in a collision at sea in August, is to be scrapped.



CROSSBOW (after conversion—Squids aft) starboard quarter view — 1960, *Official*

A/S Weapon Notes

Originally two Squids (triple barrelled depth charge mortars) were mounted in " B " position in *Battleaxe* and *Broadsword*, and in " X " position in *Crossbow* and *Scorpion*. The latter subsequently had a single Limbo three-barrelled depth bomb mortar mounted in " X " position.

Torpedo Notes

These vessels originally carried 10—21 inch torpedo tubes, but both quintuple sets were removed during reconstruction in 1958-59 and replaced by deck-houses.

Engineering Notes

There are two engine-rooms and two boiler-rooms, arranged alternately *en echelon*.

Conversion Notes

These four ships were modernised and converted to radar picket (aircraft direction) destroyers in 1958-59 when they had a second lattive mast installed amidships to carry a new type of air warning radar. *Broadsword* completed her conversion and commissioned on 30 Sep. 1958.

Photograph Notes

A starboard quarter view of *Scorpion* before conversion appears in the 1957-58, 1958-59 and 1959-60 editions. A starboard broadside view of *Crossbow* (in the Addenda) and a photograph of *Battleaxe* after conversion appear in the 1959-60 edition.

Appearance Notes

These vessels were the first two-funnelled destroyers since the pre-war " I " and " Tribal " classes, though the fore-funnel is not markedly apparent, being enveloped by the lattice foremast except for the protruding cowl top, and the second funnel is not very conspicuous, being a squat and vertical stack considerably farther aft. The four ships were originally of two types, easily distinguished—see *A/S Weapon Notes* and *Gunnery Notes* above. A noticeable feature of their new silhouette since the four ships were converted to radar pickets in 1958-59, is the second mast surmounted by a very prominent bedspring air warning radar aerial.

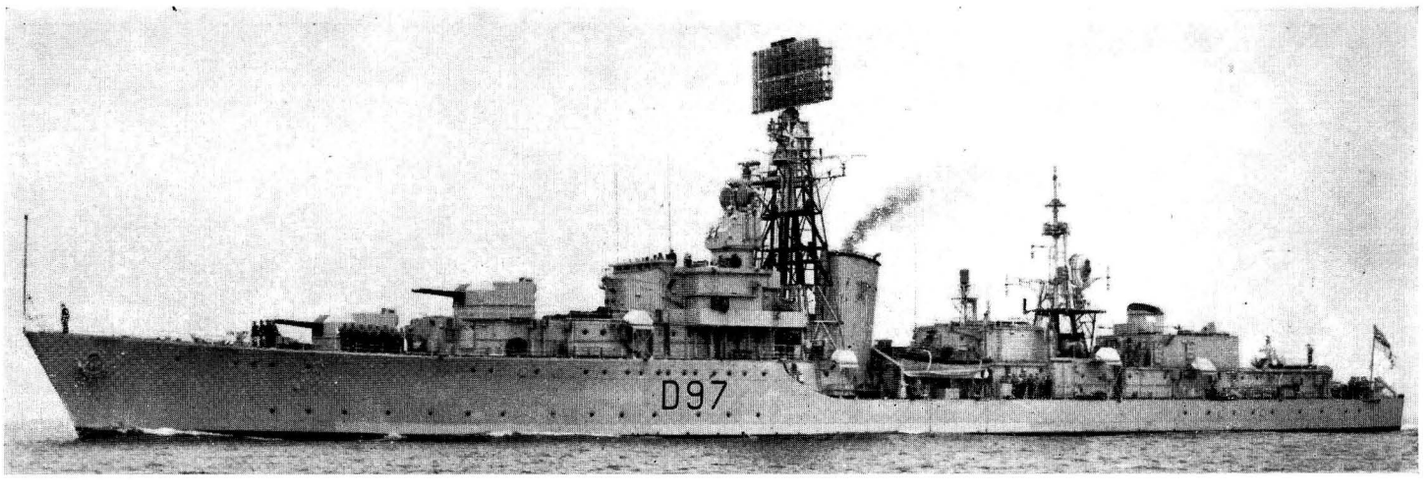
Habitability Notes

During reconstruction in 1958-59 the habitability was raised to the highest standard possible in this class of ship.

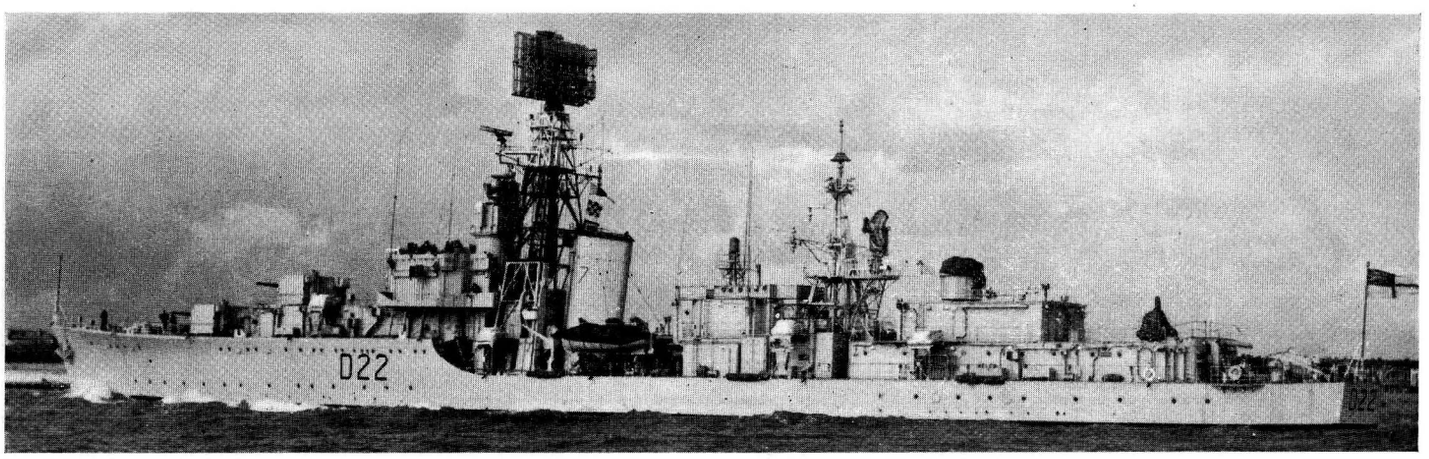
Class Notes

Cancelled ships of this class included *Carronade* (Scotts), *Culverin* (Thornycroft), *Cutlass* and *Dagger* (Yarrow), *Claymore* and *Dirk* (Scotts), *Halberd*, *Howitzer* (Thornycroft), *Longbow* (Thornycroft), *Musket* (White), *Ponaird*, *Rifle* and *Spear* (Denny), *Sword* (ex-*Celt*) (White), *Grenade*, *Lance* and *Rapier*. Of these, *Carronade*, *Culverin* and *Cutlass*, if not others, were actually launched before construction was abandoned.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 31	*Broadsword*	Yarrow & Co. Ltd., Scotstoun	20 July 1944	5 Feb. 1946	4 Oct. 1948
D 96	*Crossbow*	John I. Thornycroft & Co., Woolston	26 Aug. 1944	20 Dec. 1945	4 Mar. 1948
D 64	*Scorpion*	J. Samuel White & Co. Ltd., Cowes	16 Dec. 1944	15 Aug. 1946	17 Dec. 1947



CORUNNA (after conversion to radar picket) 1962, *Wright & Logan*



AISNE (after conversion to radar picket) 1962, *Wright and Logan*

Fleet Radar Pickets

(Converted Destroyers)

4 Later " Battle " Class

AGINCOURT **BARROSA**
AISNE **CORUNNA**

Displacement:	2,480 tons *standard* (3,430 tons *full load*),
Dimensions:	355 (*pp.*), 364 (*w.l.*), 379 (*o.a.*) × 40½ × 13¾ (*mean*), 17½ (*max.*) feet
Guns:	4—4·5 inch (two twin turrets forward), see *Gunnery Notes*
Guided weapons:	" Seacat " launcher system (see *Guided Missile Notes*)
Tubes:	Removed (see *General Notes*)
A/S weapons:	1 Squid triple barrelled depth charge mortar
Machinery:	Parsons geared turbines. 2 shaft) S.H.P.: 50,000=35·75 kts. (designed) 30·5 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	680 tons
Radius:	3,000 miles at 20 kts.
Complement:	232 to 268 (peace), 337 (war)

General Notes

Apart from a heavier main armament, this class embodied several other improvements as compared with earlier destroyers. Before reconstruction as Fleet Radar Pickets, they also mounted ten 21-inch torpedo tubes in two quintuple banks on the centre line abaft the funnel. Originally *Agincourt* and *Corunna* were fitted as Leaders.

Gunnery Notes

Before reconstruction these ships also mounted eight of the latest type 40 mm. Bofors anti-aircraft guns in four twin mountings.

Conversion Notes

Now known as " Battle class AD Conversions ", *Agincourt*, *Aisne*, *Barrosa* and *Corunna* have been converted into fleet radar pickets (aircraft direction destroyers), see *Radar Notes* and *Guided Missile Notes*. Little remains of the original ships save the hull, engines and boilers. Internally the ships were completely rebuilt to give a higher standard of living and fighting efficiency. The operations room is one of the most complicated and compact ever contrived in destroyers. Conversions for completion scheduled on 30 Nov. 1961 (*Corunna*), 9 Jan. 1962 (*Aisne*), Mar. 1962 (*Barrosa*) and 1 May 1962 (*Agincourt*). *Corunna* commissioned on 23 Feb. 1962, *Agincourt* on 1 May 1962.

Guided Missile Notes

During the conversion of *Agincourt*, *Aisne*, *Barrosa* and *Corunna* a guided weapons system was fitted to mount " Seacat " missiles, which, with the complex radar and gunnery systems, needs alternating current generators to power it (the ships normally use direct current for their services). The " Seacat " guided missile launcher is mounted on the after end of the superstructure.



AGINCOURT (after conversion to radar picket) 1962, *Wright and Logan*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 86	*Agincourt*	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn-on-Tyne	12 Dec. 1943	29 Jan. 1945	25 June 1947
D 22	*Aisne*	Vickers-Armstrongs Ltd., Newcastle-on-Tyne	26 Aug. 1943	12 May 1945	20 Mar. 1947
D 68	*Barrosa*	John Brown & Co. Ltd., Clydebank	28 Dec. 1943	17 Jan. 1945	14 Feb. 1947
D 97	*Corunna*	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne	12 Apr. 1944	29 May 1945	6 June 1947

Radar Notes

Agincourt, *Aisne*, *Barrosa* and *Corunna* have been fitted with a beam to beam lattice foremast striding across the ship similar to an electric grid tower for the 293 type radar on its platform and five more aerials The ships also have a mainmast amidships which will carry 27 aerials. The most prominent feature is the 965 radar, described as a double bedstead, twice the size of the bedstead or advanced radar scanner topping a towering lattice mast fitted in the converted commando carrier *Albion*, and twice as powerful as those fitted in the radar picket destroyers of the "Weapon" class.

Appearance Notes

The converted ships are immediately identifiable by the huge " double bedstead " radar atop their foremasts.

Class Notes

Sixteen more destroyers of the original Later " Battle " class were cancelled before completion at the end of the Second World War, including the original *Jutland*, *Mons*, *Poictiers* (all ordered from Hawthorn-Leslie), *Namur*, *Navarino*, *San Domingo* (all Cammell Laird), *Talavra*, *Trimcomalee* (both Clydebank), *Belleisle*, *Omdurman*, *Waterloo* (ex-*Vimeira*) (all Fairfield), *St. Lucia* (Stephen), *Oudenarde*, *River Plate* (both Swan Hunter), *Albuera* (Vickers-Armstrongs), and *Somme* (Cammell Laird). At least eight of these had been launched before construction was abandoned.

Photograph Notes

Photographs before conversion appear of *Aisne* in the 1956-57 edition, of *Corunna* in the 1955-56 to 1957-58 editions, of *Agincourt* in the 1957-58 to 1960-61 editions, and *Barrosa* in the 1960-61 1961-62 editions.

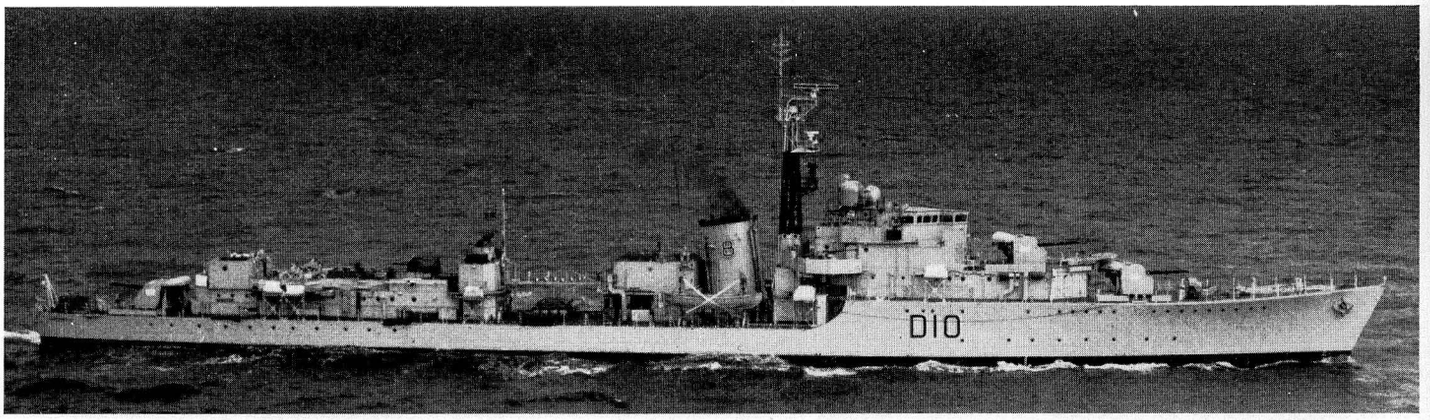
Recent Disposals

Of the Later " Battle " class, *Alamein* was surplus to fleet requirements in 1960 and is being sold or scrapped in 1962, *Dunkirk* and *Jutland* are for disposal at the end of 1962, and *Matapan* is laid up in reserve.

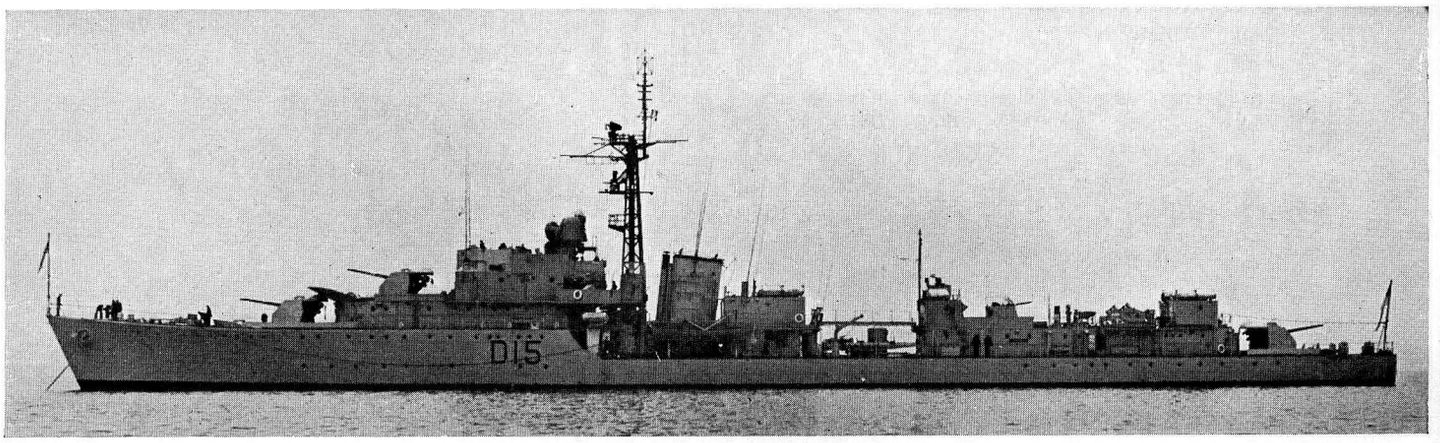
Recent Disposals of Early " Battle " Class

Of the Early " Battle " class, *Hogue* was discarded for scrap in 1960. *Armada*, *Barfleur*, *Gravelines*, *Lagos*, *St. James*, *St. Kitts* and *Vigo* were scheduled for disposal in 1961, *Camperdown*, *Finisterre*, *Saintes* and *Solebay* were for disposal in Spring 1962 and *Sluys* and *Trafalgar* are for disposal in the near future (see full particulars and photographs on page 259 of the 1961-62 edition).

Cadiz and *Gabbard* were sold to Pakistan in 1956 and renamed *Khaibar* and *Badr* respectively.



CASSANDRA (converted with frigate type bridge) 1962, *Official*



CAVENDISH (early "Ca" conversion type) 1957, *Wright & Logan*

"C" Group (Anti-Submarine)

8 "Ca" Class, 2 "Ch" Class

2 *Clydebank*
CAESAR (ex-*Ranger*)
CAVENDISH (ex-*Sybil*)

3 *Scotts*
CAMBRIAN (ex-*Spitfire*)
CARRON (ex-*Strenuous*)
CHEQUERS (Leader)

1 *Stephen*
CHEVRON

2 *White*
CARYSFORT
CAVALIER

2 *Yarrow*
CAPRICE (ex-*Swallow*)
CASSANDRA (ex-*Tourmaline*)

Displacement:	Modernised ships: 2,020 tons *standard* (2,600 tons *ful load*).
Dimensions:	339½ (*pp.*), 350 (*w.l.*), 362¾ (*o.a.*) × 35⅔ × 10 (*mean*), 13 (*load*) feet
Guns:	3—4·5 inch, 4—40 mm. AA.
Tubes:	4—21 inch (quadrupled)
A/S weapons:	2 squid triple-barrelled depth charge mortars in "X" position
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000 36·75 kts. (designed), 31·25 kts. sea speed.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	186 (Leaders, 222)

General Notes

The "C" group of destroyers were of emergency war design. They were built as 4 flotillas, i.e. "Caesar," "Chequers," "Cossack" and "Crescent" classes.

Reconstruction Notes

The ships recently converted ("Ca" class) underwent a much more extensive refit than those previously modernised with superstructure extended aft and modified bridge.

The first four of the "Ca" class conversions have different bridges from the last four (*Caesar*, *Cambrian*, *Caprice* and *Cassandra*) which have "Leopard" type.

Gunnery Notes

Former armament was 4—4·5 inch and 6—40 mm. guns (also 8—21 inch torpedo tubes). The 4·5 inch gun in "X" position was removed. "Y" gun was removed from minelayers.

Appearance Notes

There are variations in appearance after having been reconstructed and modernised for anti-submarine warfare. *Carron* was subsequently modified for use in the Dartmouth Training Squadron, with no 4·5 inch, 4—40 mm. AA., no squids; in 1960 she retained only 2—40 mm. amidships, having had most of her armament removed and replaced by a new instructional charthouse and pilotage position built forward of the bridge, and she became Navigation Tender in the Portsmouth Squadron. *Chequers* is fitted as a squadron leader.

Photograph Notes

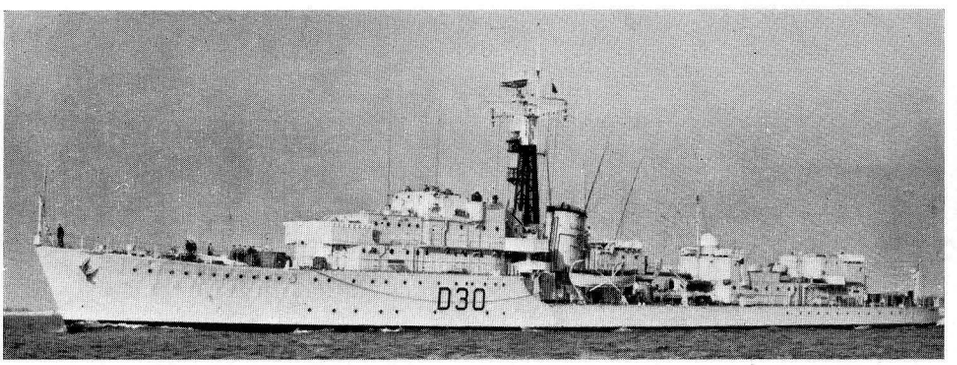
Photographs appear of *Cavalier* in the 1958-59 edition, of *Carron* (before disarming) and *Chevron* in the 1957-58 edition, of *Carysfoot* in the 1959-60 and 1960-61 editions, of *Caprice* (large starboard quarter oblique aerial view, showing squids aft) in the 1960-61 edition, and of *Chaplet* (large starboard quarter oblique aerial view) in the 1961-62 edition.

Transfer Notes

Of the "Cr" class, *Crescent* and *Crusader* were transferred to the Royal Canadian Navy in 1945, *Cromwell*, *Crown*, *Croziers* and *Crystal* were sold to Norway in 1946, and *Creole* and *Crispin* were sold to Pakistan in 1956. Of the "Ch" class, *Chivalrous* was transferred to the Pakistan Navy in 1953 and *Charity* in 1958.

Recent Disposals

Constance was scrapped in 1956. *Comus* was scrapped in 1958. *Contest* and *Cossack* were scrapped in 1960. *Chieftain*, *Childers*, *Cockade*, *Comet* and *Consort*, surplus to fleet requirements, were disposed of in 1961. *Concord* was attached to the training establishment *Caledonia* and *Cheviot* relieved the frigate *Talybont* as "dead" training ship attached to *Caledonia* establishment. *Chaplet* is scheduled for disposal in 1962. *Chequers* and *Chevron* are for disposal in the near future.



CARRON (disarmed as Navigation Ship) 1962, *Wright & Logan*



CAESAR (frigate bridge) 1961, *Wright & Logan*

Pen No.	*Name*	*Laid down*	*Launched*	*Completed*
D 07	*Caesar*	3 Apr. 43	14 Feb. 44	5 Oct. 44
D 85	*Cambrian*	14 Aug 42	10 Dec. 43	17 July 44
D 01	*Caprice*	28 Sep. 42	16 Sep. 43	5 Apr. 44
D 30	*Carron*	26 Nov. 42	28 Mar. 44	6 Nov. 44
D 25	*Carysfort*	12 May 43	25 July 44	20 Feb. 45
D 10	*Cassandra*	30 Jan. 43	29 Nov. 43	28 July 44
D 73	*Cavalier*	28 Feb. 43	7 Apr. 44	22 Nov. 44
D 15	*Cavendish*	19 May 43	12 Apr. 44	13 Dec. 44
D 61	*Chequers*	4 May 43	30 Oct. 44	28 Sep. 45
D 51	*Chevron*	18 Mar. 43	23 Feb. 44	23 Aug. 45

Recent Disposals of other Destroyers

Of the Early "Battle" class, *Hogue* was discarded for scrap in 1960, *Armada*, *Barfleur*, *Gravelines*, *Lagos*, *St. James*, *St. Kitts* and *Vigo* were scheduled for disposal in 1961, *Camperdown*, *Finisterre*, *Saentes* and *Solebay* were for disposal in Spring 1962, and *Sluys* and *Trafalgar* and for disposal in the near future. *Cadiz* and *Gabbard* were sold to Pakistan in 1956 and renamed *Khaibar* and *Badr*, respectively.

Of the "O" class, *Obedient* was earmarked for disposal in 1961, *Opportune* was scrapped in 1955, *Obdurate* was expended in tests at the Naval Construction Research Establishment at Rosyth, *Oribi* was transferred to the Turkish Navy and renamed *Gayret* and *Offa*, *Onslaught* and *Onslow* were transferred to the Pakistan Navy and renamed *Tarig*, *Tughril* and *Tippu Sultan*, respectively.

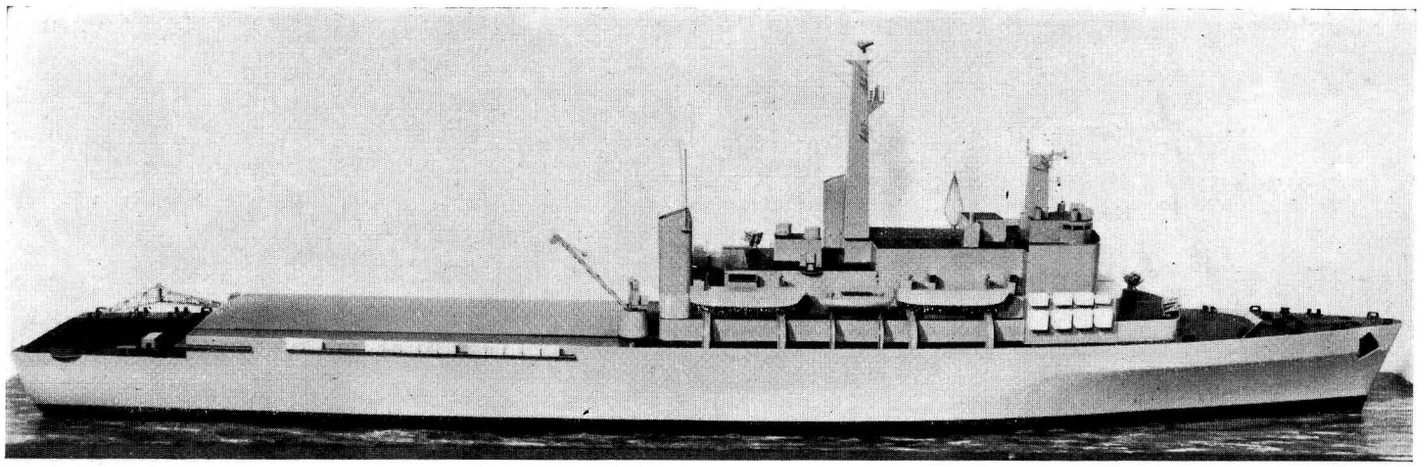
Of the "M" class, *Musketeer* was broken up in 1956 and *Marne*, *Matchless*, *Meteor* and *Milne* were handed over to Turkey on 29 June 1959.

Of the "N" class, *Napier*, *Nepal*, *Nizam* and *Noble* were scrapped in 1956, and *Norman* in 1958.

Of the "Z" class, *Zambesi* and *Zebra* were scrapped in 1959 and *Zephyr* in June 1958.

The sole survivor of the "S" class, *Savage*, is being disposed of in 1962.

ASSAULT LANDING SHIPS



FEARLESS (model) 1962, *Official*

2 Amphibious Dock Transport Type

	FEARLESS	INTREPID
Name	*Fearless*	*Intrepid*
Builders:	Harland & Wolf, Ltd., Belfast	John Brown & Co., (Clydebank) Ltd
Ordered:	Dec. 1961	May 1962
Laid down	25 July 1962	Late 1962
Completion:	Dec. 1965	May 1966
Displacement:	7,500 tons *light*, 12,500 *full*, 14,200 tons *flooded* (unofficial figures)	
Dimensions:	Length: 500 (*pp.*), 520 (*o.a.*). Beam: 80 feet. Draught: 20 feet (30 feet *aft*, 25 feet *mean* flooded)	
Aircraft:	Helicopters	
Landing craft:	2 tank landing craft in dock; 2 assault landing craft at davits	
Guided weapons:	4 "Seacat" close-range anti-aircraft systems	
Machinery:	Speed: about 20 knots (unofficial figure)	
Vehicles:	15 lorrys and trucks	
Troops:	900 with equipment	

General Notes

It was announced in the First Lord of the Admiralty's Explanatory Statement on the Navy Estimates for 1961-62 that it was planned to build an assault ship of a new design, which, with commando carriers, will replace the present ships of the Amphibious Warfare Squadron. The new ship will carry assault landing craft (LCM and LCA) which can be floated through the open stern by flooding compartments of the ship and lowering her in the water. She will be able to deploy tanks, vehicles and men. She will have seakeeping qualities much superior to those of the present tank landing ships of the Amphibious Warfare Squadron, and her speed and range will be greater. She will also be able to serve as a Command Ship at sea for transit operations and as a Headquarters Ship in the assault area. Another valuable feature will be a helicopter platform which is also the deckhead of the covered well or dock from which the landing craft are floated out. The vessel has a new type of hull combining features of both an escort aircraft carrier and a troop transport with the basic lines of the dock landing ships of the Second World War. Other details can be seen in the above photograph of the official model. She is similar to the new dock amphibious transports in the United States Navy. She was ordered from Harland & Wolff, Ltd., Belfast in Dec. 1961. She will be completed in three or four years, and will cost £7,000,00 to £8,000,000. A contract for a sister ship was awarded to John Brown & Co. (Clydebank), Ltd in May 1962.

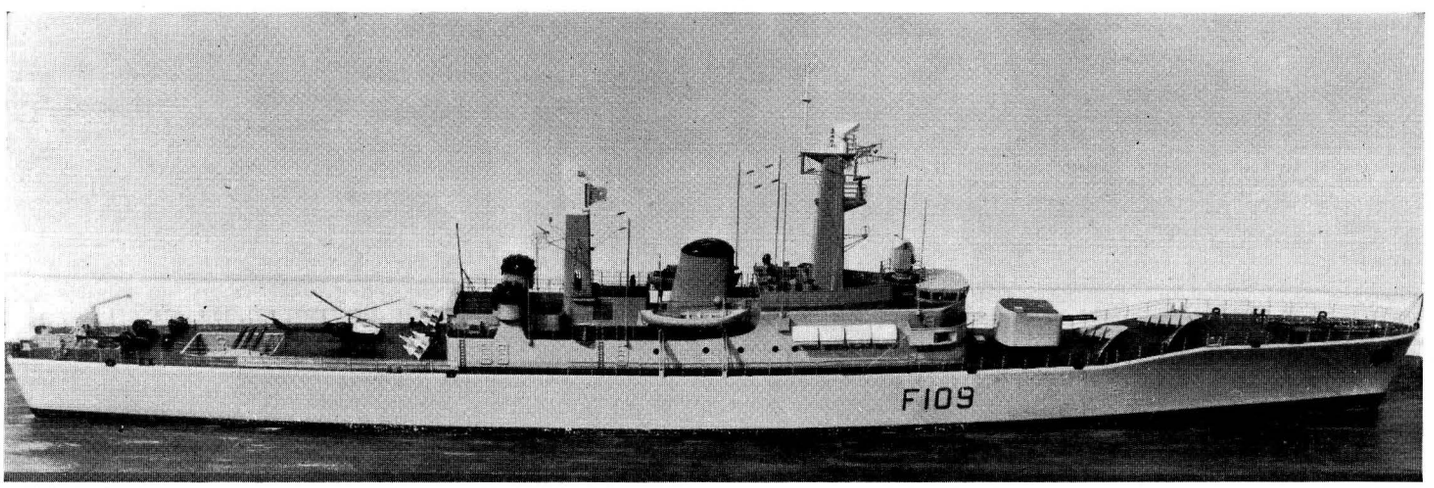
Illustration Notes

An official drawing—a port quarter oblique elevated view—of the projected "open stern" assault ship, the prototype for the enlarged commando units of the Royal Navy and Royal Marines, appears in the 1961-62 edition.

Engineering Notes

From the photograph of the model above it will be seen that the funnels are staggered across the beam of the ship, indicating that the engines and boilers are arranged *en echelon*, two machinery spaces having one set of turbines and one set of boilers installed in each space, the port shaft being longer than the starboard.

GENERAL PURPOSE FRIGATES (A/S)



LEANDER (model) 1962, *Official*

Leander" Class. Improved Type 12
7+6 New Construction
1st Rate (*Anti-Submarine Versatile Type*)

AJAX (ex-*Fowey*)
AURORA
DIDO (ex-*Hastings*)
EURYALUS
GALATEA
LEANDER (ex-*Weymouth*)
PENELOPE (ex-*Coventry*)

Displacement:	Over 2,200 tons *standard* (*circa* 2,700 tons *full load*)
Dimensions:	360 (*pp.*), 372 (*o.a.*) × 41 × 13¼ feet
Guns:	2—4·5 inch (twin turret), 2—40 mm. AA Bofors (*single*)
Guided missiles:	2 "Seacat" anti-aircraft (see *Design Notes*)
A/S weapons:	Triple barrelled depth charge mortar
Aircraft:	1 lightweight helicopter armed with homing torpedoes
Machinery:	2 sets double reduction geared turbines. 2 shafts. S.H.P.: 30,000= 30 kts.
Complement:	262 (17 officers, 245 ratings)

General Notes

The Admiralty announced on 7 Mar. 1960 that it had been decided to exploit the good qualities of the very successful "Whitby" class anti-submarine frigates in an improved and more versatile Type 12 to be known as the "Leander" class. The main new features planned are a long-range air warning radar, the "Seacat" anti-aircraft guided missile, improved anti-submarine detection equipment and a lightweight helicopter armed with homing torpedoes. The Admiralty will also introduce air conditioning and better living conditions in this mainly anti-submarine but flexible and all-purpose type, it was officially stated in 1960. Seven ships are under construction and six more were ordered under the 1961-62 and subsequent Navy Estimates.

Design Notes

The "Leander" class will have the same hull and substantially the same steam turbine machinery as the "Whitby" class, but will be of a revised and adavnced design and will fulfil a composite anti-submarine, anti-aircraft and air direction role. The 40 mm. guns will eventually be replaced by "Seacat" ship-to-air launchers and directors.

Nomenclature Notes

Ajax, *Dido* and *Leander* were originally to have been the last three units of the "Rothesay" class, and *Penelope* was originally to have been the fifth ship of the "Salisbury" class.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*
F 114	*Ajax*	Cammell Laird & Co. (Shipbuilders and Engineers) Ltd., Birkenhead	Oct. 1959	16 Aug. 1962
F 104	*Dido*	Yarrow & Co. Ltd., Scotstoun, Glasgow	Dec. 1959	21 Dec. 1961
F 109	*Leander*	Harland & Wolff Ltd., Belfast	Apr. 1959	28 June 1961
F 127	*Penelope*	Vickers-Armstrongs (Shipbuilders) Ltd., Newcastle-on-Tyne	14 Mar. 1961	17 Aug. 1962
F 10	*Aurora*	John Brown & Co. (Clydebank) Ltd.	1 June 1961	
F 15	*Euryalus*	Scotts' Shipbuilding & Engineering Co. Ltd., Greenock	13 Oct. 1961	
F 18	*Galatea*	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne	Dec. 1961	
		J. Samuel White & Co., Ltd., Cowes, Isle of Wight		
		Yarrow & Co., Ltd., Scotstoun, Glasgow		
		H.M. Dockyard, Devonport		
		H.M. Dockyard, Portsmouth		
		Vickers-Armstrongs (Shipbuilders) Ltd., Newcastle-on-Tyne		
		Alex Stephen & Sons Ltd., Govan, Glasgow		

GENERAL PURPOSE FRIGATES (Gas Turbine)



ASHANTI — 1962, *Official*

7 "Tribal" Class. Type 81
New Construction
1st Rate (*Destroyer Type*)

ASHANTI
ESKIMO
GURKHA
MOHAWK
NUBIAN
TARTAR
ZULU

Displacement:	2,300 tons *standard* (2,700 tons *full load*)
Dimensions:	350 (*w.l.*), 360 (*o.a.* × 42½ × 13¼ feet
Guns:	2—4·5 inch d.p. (two single mountings); 2—40 mm. Bofors AA. (two single mountings)
A/S weapons:	1 Limbo three-barrelled depth bomb mortar
Aircraft:	1 Westland Wasp helicopter
Machinery:	1 Metrovik geared steam turbine, H.P.: 15,000 boosted by 1 Metrovik gas turbine, H.P.: 7,500. 1 shaft. Total S.H.P.: 22,500=28 kts.
Boilers:	1 Babcock & Wilcox (plus 1 auxiliary boiler)
Complement:	253 (13 officers, 240 ratings)

General Notes

General purpose frigates designed to fulfil economically all the functions of frigates rather than to have an outstanding performance in any one specialised role, but capable of meeting the main escort functions of anti-submarine prptection, anti-aircraft defence, and aircraft direction. Three were ordered under the 1955-56 Navy Estimates, and four more under the 1956-57 and 1957-58 Navy Estimates. These versatile ships have two funnels like destroyers and were designed for general duties formerly undertaken by destroyers. Officially stated that the new general purpose frigates are fully air conditioned in all accommodation space and most working spaces. *Ashanti* cost £5,315,000 (official estimate).

Turbine Design Notes

These shipshaveCOSAG (combined steam and gas turbine) machinery plants. The engines are right aft.

The following is an official statement concerning the new type of turbine installation for the Royal Navy:

These prototype propulsion machinery installations are of a new and revolutionary type for use in frigates and fast escort vessels.

The principle employed is that of highly efficient steam turbines and gas turbines geared to the same propeller shaft. The gas turbines provide a high concentration of power in a very compact form and are used to supplement the steam turbines for sustained bursts of high speed work. They are also able to develop their full power from cold within a few minutes, providing unprecedented mobility, and enabling ships lying in harbour without steam to get under way in an emergency.

The machinery installations were conceived and designed by the Yarrow-Admiralty Research Department of Yarrow & Co. Ltd., Scotstoun, Glasgow, in conjunction with the Admiralty. The Metropolitan-Vickers Electrical Co. Ltd., Manchester, designed and manufactured the steam turbines, gas turbines, gearing and control gear, and carried out full scale shore tests on a large part of the prototype equipment at their Manchester Works.

Warships in which this lightweight and compact machinery is installed are able to carry more fighting equipment than would otherwise be possible with orthodox machinery.

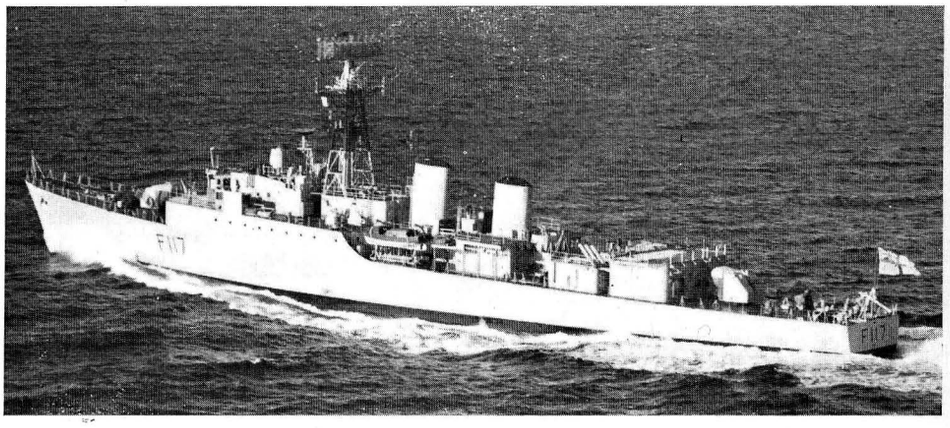
The First Sea Lord, speaking to the Royal Institution of Naval Architects about this new phase of machinery development in the Royal Navy—the introduction of the gas turbine and guided weapon destroyers and general purpose frigates fitted with a combination of steam turbines and gas turbines, said: "The advantages of this combination are that the gas turbine can be used as a booster at the higher powers and, what is even more important, *it can enable this ship to get underway at a few minutes' notice when steam is not available.*"

Anti-Submarine Notes

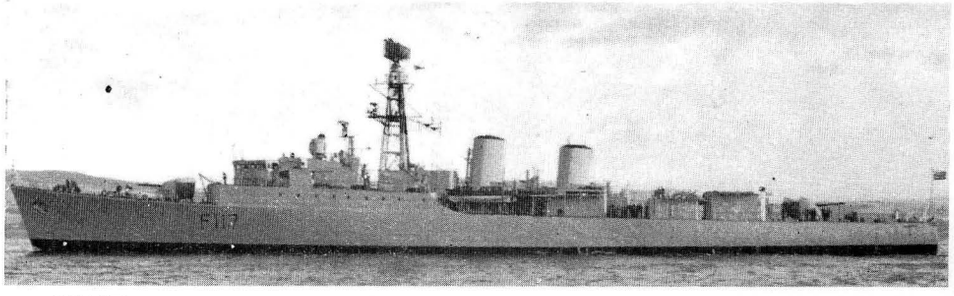
The "Ashanti" class are the first frigates designed to carry a helicopter for anti-submarine reconnaissance.

Operational Notes

These ships have a totally enclosed bridge and an air-conditioned operations room. They are equipped with warning radar of the most modern design. They are fitted with stabilisers and have two rudders.



ASHANTI — 1962, *Official*



ASHANTI — 1962, *Official*

Engineering Notes

The propulsion machinery is of a novel kind. A steam turbine provides the power for normal cruising and manoeuvring. A gas turbine driving on to the same propeller shaft provides the additional power for high speed steaming. This gas turbine also enables the ship lying in harbour without steam up to get under way instantly in emergency. The design of the machinery was evolved by close co-operation between the Admiralty, the Yarrow-Admiralty Research Department of Yarrow & Co. Ltd., Glasgow, and Associated Electrical Industries Ltd. The machinery is remotely controlled at all powers.

Electrical Notes

The ships' generator capacity is such that it will meet high demands. Fluorescent lighting is used for all living accommodation, each bunk is fitted with its own light, provision is made for such labour saving devices as vacuum cleaners and floor polishers, while supply sockets are available for officers and ratings using electric razors.

Construction Notes

Ships of the class will be of all-welded prefabricated construction and the structural arrangements have been designed to provide a robust hull with special emphasis on the prevention of corrosion. Denny Brown stabilisers are fitted to reduce rolling in heavy seas, while good sea-keeping qualities enable them to maintain a high speed in rough weather.

Habitability Notes

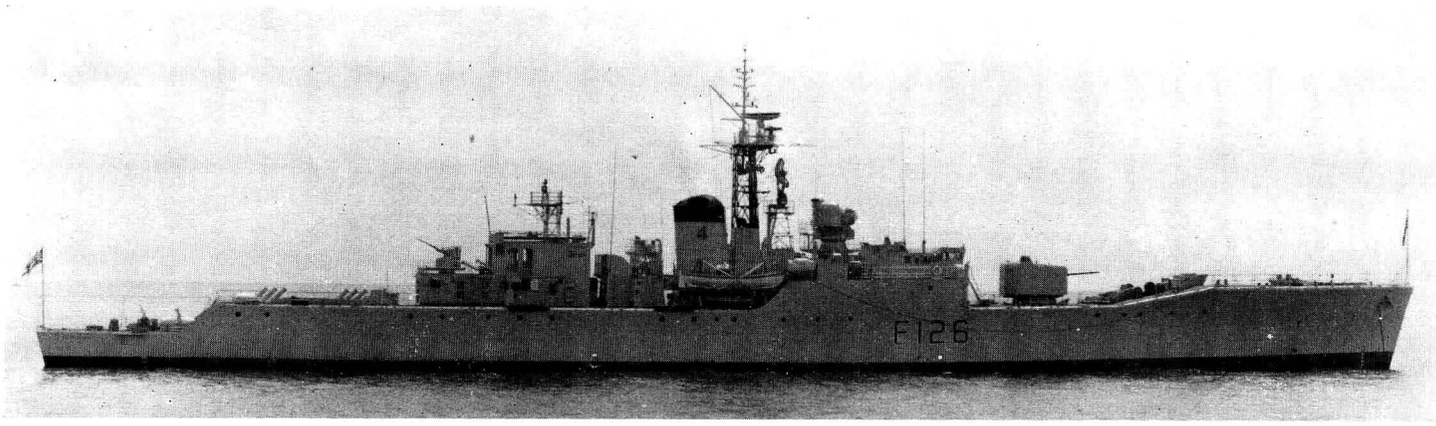
A high standard of living accommodation is incorporated, and, in particular, all manned compartments are air-conditioned. Bunk sleeping is provided throughout, and messing is on the cafeteria system.

Building Notes

Ashanti was officially nominated as the prototype of the new general purpose frigates. *Nubian* was taken in hand for prefabrication at H.M. Dockyard, Portsmouth, on 17 Feb. 1958 and was formally laid down on 7 Sep. 1959. The keels of *Mohawk* and *Zulu* were laid on 1 Dec. 1960.

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 117	*Ashanti*	Yarrow & Co. Ltd., Scotstoun, Glasgow	9 Mar. 1959	23 Nov. 1961
F 119	*Eskimo*	J. Samuel White & Co. Ltd., Cowes, Isle of Wight	21 Mar. 1960	Feb. 1963
F 122	*Gurkha*	J. I. Thornycroft & Co. Ltd., Southampton	10 July 1960	Jan. 1963
F 125	*Mohawk*	Vickers-Armstrongs Ltd., Barrow-in-Furness	5 Apr. 1962	
F 131	*Nubian*	H.M. Dockyard, Portsmouth	6 Sep. 1960	22 Nov. 1962
F 133	*Tartar*	H.M. Dockyard, Devonport	19 Sep. 1960	Dec. 1962
F 124	*Zulu*	Alex Stephens & Sons Ltd., Govan, Glasgow	3 July 1962	

ANTI-SUBMARINE FRIGATES



PLYMOUTH (dead broadside) 1962, *Official*

9 "Rothesay" Class. Modified Type 12.

1st Rate (*Anti-Submarine Quality Type*)

BERWICK
BRIGHTON
FALMOUTH
LONDONDERRY
LOWESTOFT
PLYMOUTH
ROTHESAY
RHYL
YARMOUTH

Notes

Basically similar to the "Whitby" class but with modifications in layout as a result of experience gained with the earlier ships of the Type 12, see full particulars below. There are several differences, including the single Bofors, later to be replaced by Seacat, and the build up of the after superstructure around the mainmast.

6 "Whitby" Class. Type 12.

1st Rate (*Anti-Submarine Quality Type*)

BLACKPOOL
EASTBOURNE
SCARBOROUGH
TENBY
TORQUAY
WHITBY

Displacement:	2,150 tons *standard* (2,560 tons *full load*)
Dimensions:	360 (*pp.*), 370 (*o.a.*) × 41 × 12¾ feet
Guns:	2—4·5 inch (twin turret), 2—40 mm. Bofors AA. (twin), see *Guided Missile Notes*
Tubes:	See *Torpedo Notes*
A/S weapons:	2 Limbo three-barrelled depth charge mortars
Machinery:	2 sets double reduction geared steam turbines. 2 shafts. S.H.P.: 30,430=31 kts. (*max.*), 29 kts. sea speed
Boilers:	2 Babcock & Wilcox
Complement:	"Rothesay" class:— 200 (9 officers, 191 ratings) "Whitby" class:— 189 (9 officers, 180 ratings), leaders 152 (7 officers, 145 ratings), others

General Notes

Primarily designed for the location and destruction of the most modern type of submarines, these frigates are fitted with the latest underwater detection equipment and anti-submarine weapons of post-war development. Good sea-keeping qualities enable the vessels to maintain their high speed in rough seas. The vessels are all welded and the structural arrangements have been specially designed to achieve the lightest possible structure. Opportunity was taken in their building to gain experience in welding procedures necessary for rapid building of such vessels in emergency. *Torquay* completed conversion into a training ship in Sep. 1962.

Engineering Notes

The propelling machinery includes geared turbines of novel design and high power. The employment of double reduction gearing allows low propeller revolutions to be employed at high power and the propeller efficiency is correspondingly high: this fact coupled with improvements in hull design, enables this type of frigate to achieve over 30 knots on only 75 per cent of the power required by older destroyers of comparable displacement. The arrangement of the engine room machinery is outstandingly good.

Anti-Submarine Notes

These frigates have the latest equipment for hunting and killing submarines and facilities for directing anti-submarine aircraft.

Torpedo Notes

Provision was made in the design for mounting 12 A/S torpedo tubes (8 single, 2 twin), but later ships have never carried them, and they have been removed from earlier ships.

Scarborough was the first to be fitted with torpedo tubes (four fixed on each side, and two swivel mountings).

Operational Notes

Considered to be the most useful class of small ships yet put into service with the Fleet. With their high fo'c'sle and clean lines they ride well in a sea-way and are exceptionally dry. The enclosed bridge is spacious, with splendid vision, the heated windows in the fore part of the bridge being an asset in Arctic waters. Internal communications have satisfied every demand placed upon them. The operations room is the finest ever put into a small ship.

Appearance Notes

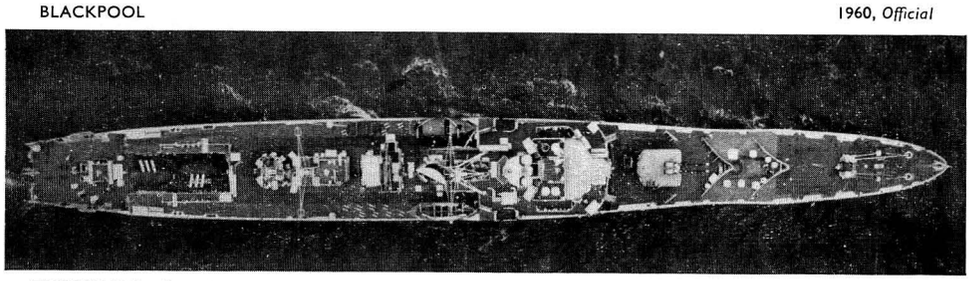
Most ships have been fitted with a thicker, raked back funnel with a dome cap (actually there are two stacks inside the funnel) and early ships of the class, which had a vertical funnel, are being taken in hand for similar alterations as opportunities offer. Later ships of the type were completed with the new funnel.

Electrical Notes

The electrical system is alternating current, 440 volts, three phase, 60 cycles per second.



BLACKPOOL 1960, *Official*



TORQUAY (dead overhead aerial plan view) before conversion to training ship *Added* 1960, *Official*

Improvement Notes

It is officially stated that, as far as possible, the improvements introduced in the "Leander" class will be extended during refits, to the "Whitby" class. Although basically similar to the six earlier ships of the "Whitby" class, the opportunity has been taken to incorporate in the "Rothesay" class modifications in the layout which extensive experience with the earlier ships has shown to be advantageous.

Nomenclature Notes

All the ships of the "Whitby" and "Rothesay" classes are named after seaside resorts and coastal towns. The ships begun as the *Fowey*, *Hastings* and *Weymouth* were redesigned as units of the "Leander" class, and renamed *Ajax*, *Dido* and *Leander*, respectively, see previous page.

Guided Missile Notes

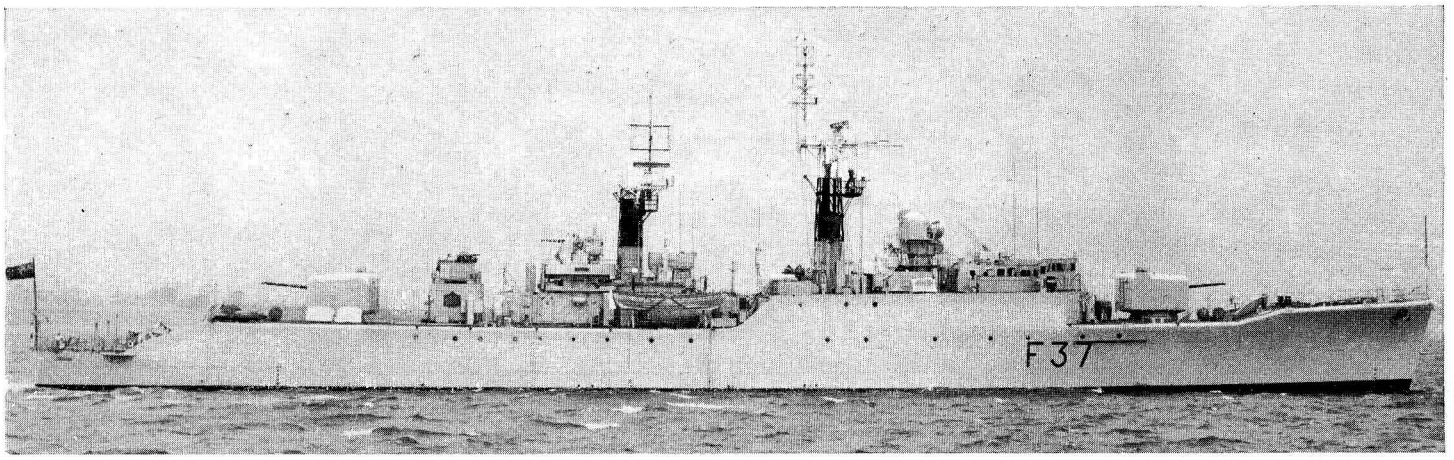
The "Rothesay" class are to be fitted with "Seacat" surface-to-air guided missiles as secondary armament in place of Bofors close range anti-aircraft guns. A single 40 mm. AA. gun, mounted as a temporary measure, will eventually be replaced by a "Seacat" guided missile launcher and director.

Photograph Notes

Photographs appear of *Whitby* in the 1957-58 edition, of *Torquay* in the 1957-58 to 1960-61 editions, of *Eastbourne* 1958-59 to 1960-61 editions, of *Tenby* in the 1958-59 edition, of *Scarborough* in the 1957-58 and 1959-60 editions, *Rothesay* in the 1960-61 edition (Addenda), and of *Londonderry* in the 1961-62 edition.

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 115	*Berwick*	Harland & Wolff Ltd., Belfast	15 Dec. 1958	1 June 1961
F 77	*Blackpool*	Harland & Wolff Ltd., Belfast	14 Feb. 1957	12 Aug. 1958
F 106	*Brighton*	Yarrow & Co. Ltd., Scotstoun	30 Oct. 1959	28 Sep. 1961
F 73	*Eastbourne*	Vickers-Armstrongs Ltd., Tyne (completed at Barrow)	29 Dec. 1955	9 Jan. 1958
F 113	*Falmouth*	Swan, Hunter and Wigham Richardson Ltd., Tyne	15 Dec. 1959	25 July 1961
F 108	*Londonderry*	J. Samuel White & Co. Ltd., Cowes, Isle of Wight	20 May 1958	22 July 1960
F 103	*Lowestoft*	Alex. Stephen & Sons Ltd., Govan, Glasgow	23 June 1960	18 Oct. 1961
F 126	*Plymouth*	H.M. Dockyard, Devonport	20 July 1959	11 May 1961
F 107	*Rothesay*	Yarrow & Co. Ltd., Scotstoun	9 Dec. 1957	23 Apr. 1960
F 129	*Rhyl*	H.M. Dockyard, Portsmouth	23 Apr. 1959	31 Oct. 1960
F 63	*Scarborough*	Vickers-Armstrongs Ltd., Tyne	4 Apr. 1955	10 May 1957
F 65	*Tenby*	Cammell Laird & Co. Ltd., Birkenhead	4 Oct. 1955	18 Dec. 1957
F 43	*Torquay*	Harland & Wolff Ltd., Belfast	1 July 1954	10 May 1956
F 36	*Whitby*	Cammell Laird & Co. Ltd., Birkenhead	2 July 1954	19 July 1956
F 101	*Yarmouth*	John Brown & Co. Ltd., Clydebank	23 Mar. 1959	26 Mar. 1960

ANTI-AIRCRAFT FRIGATES



JAGUAR starboard broadside surface view) 1960 *Official*

4 "Leopard" Class. Type 41

(Diesel Anti-Aircraft Type)

JAGUAR **LYNX**
LEOPARD **PUMA**

Displacement:	2,300 tons *standard* (2,520 tons *full load*) revised figures
Dimensions:	320 (*pp.*), 330 (*w.l.*), 339¾ (*o.a.*) × 40 × 12 feet
Guns:	4—4·5 inch (in two twin turrets), 2—40 mm. Bofors AA. (twin), see *Gunnery Notes* and *Guided Missile Notes*
A/S weapons:	Squid triple-barrelled depth charge mortar
Machinery:	8 Admiralty standard range diesels in three-engine rooms. 2 shafts. B.H.P.: 12,380=25 kts., revised figures
Oil fuel:	230 tons
Complement:	195 to 205



PUMA 1962, *Wright & Logan*



LEOPARD 1959, *Official*

General Notes

These ships are designed primarily for the protection of convoys against aircraft. It is officially stated that these new anti-aircraft frigates will also serve as a medium type of destroyer in offensive operations. They are all welded, and the structural arrangements represent the last word in the development of modern technique, it is officially stated, opportunity having been taken in their building to study the problems associated with rapid production in emergency conditions. *Jaguar*, *Lynx*, and *Puma* were ordered on 28 June 1951 *Leopard* was laid down on 25 Mar. 1953 and *Jaguar* was laid down on 2 Nov. 1953. Fitted with stabilisers. The construction of another ship ordered under the 1956-57 Navy Estimates, to have been named *Panther*, was cancelled owing to the 1957 defence economies.

Engineering Notes

The propelling machinery consists of Admiralty Standard Range 1 heavy oil engines coupled to the propeller shafting through hydraulic couplings and oil-operated reverse and reduction gear boxes. *Puma's* engines, of the latest Admiralty design, were manufactured by H.M. Dockyard, Chatham, and Polar Engines, Ltd., Glasgow, the installation being by Scott's Shipbuilding and Engineering Co. Ltd., Engines of similar design are being used for driving the ship's electric generators, and these are being made by Peter Brotherhood & Co. Ltd., Peterborough. *Lynx's* engines were manufactured by Crossley Brothers, Manchester, and British Polar Engines, Glasgow, the installation being by John Brown & Co. Ltd., and the ship's electric generators were made by Vickers-Armstrongs. *Leopard's* engines were manufactured by Vickers-Armstrongs, Ltd., Barrow, and *Jaguar's* engines by Crossley Motors Ltd., Manchester. *Jaguar* is also fitted with controllable pitch propellers, and is the only ship of her class to be so fitted.

Extract from a paper: "A Review of Naval Propulsion Engineering Progress in the Last Ten Years," read by The Engineer-in-Chief of the Fleet to the N.E. Coast Institution of Engineers and Shipbuilders: *Machinery for the New Frigates*. It was while this study was proceeding that the need for new frigates of various types emerged. The accent was still on long steaming range and small ships. The anti-aircraft and aircraft-direction frigates were to be two-shaft ships with 8,000 s.h.p. on each shaft. No suitable steam design was available. The Admiralty Standard Range 1 Diesel was under development and gave promise of being a good engine of low weight—about 17 lb./s.h.p. The installation, compared with those of our war-time frigates, was a great improvement, and it was decided to engine these ships, therefore, with four A.S.R. 1 Engines geared to each shaft.

The fuel tanks have a compensating system, so that sea water replaces oil fuel as it is used.

Guided Missile Notes

Jaguar is eventually to be fitted with "Seacat" close range ant-aircraft guided missiles (see *Gunnery Notes*).

Gunnery Notes

The main armament of two twin 4·5 inch gun mountings and the gunnery armament control are similar to those mounted in the "Daring" class destroyers. The secondary armament, initially consisting of two Bofors guns, will eventually be replaced by "Seacat" surface-to-air guided missiles.

Photograph Notes

A broadside view of *Lynx*, showing the features amidships in detail, appears in the 1958-59 edition, a large starboard bow view of *Puma* appears in the 1959-60 edition, and a starboard bow view of *Lynx* appears in the 1957-58 to 1961-62 editions.

Displacement Notes

The original design called for a standard displacement of 1,800 tons, but with improvements and additions incorporated during construction the ships turned out heavier (1,950 tons *light* displacemet).

Nomenclature Notes

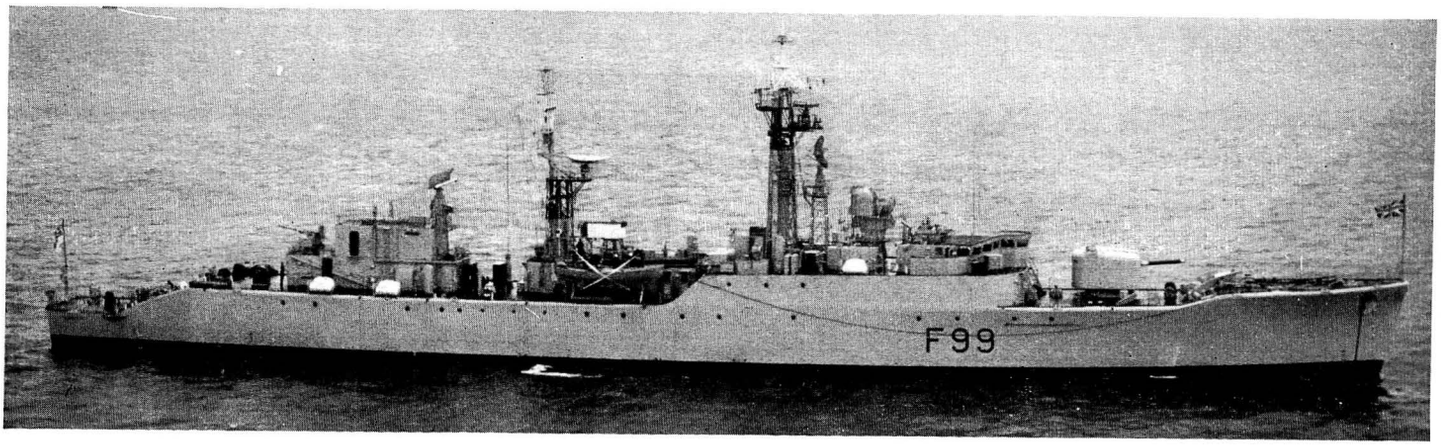
All the ships of this class are named after big cats. Fifth and sixth ships of this class were successively to have been named *Panther* (see *General Notes* above and *Class Notes* below).

Class Notes

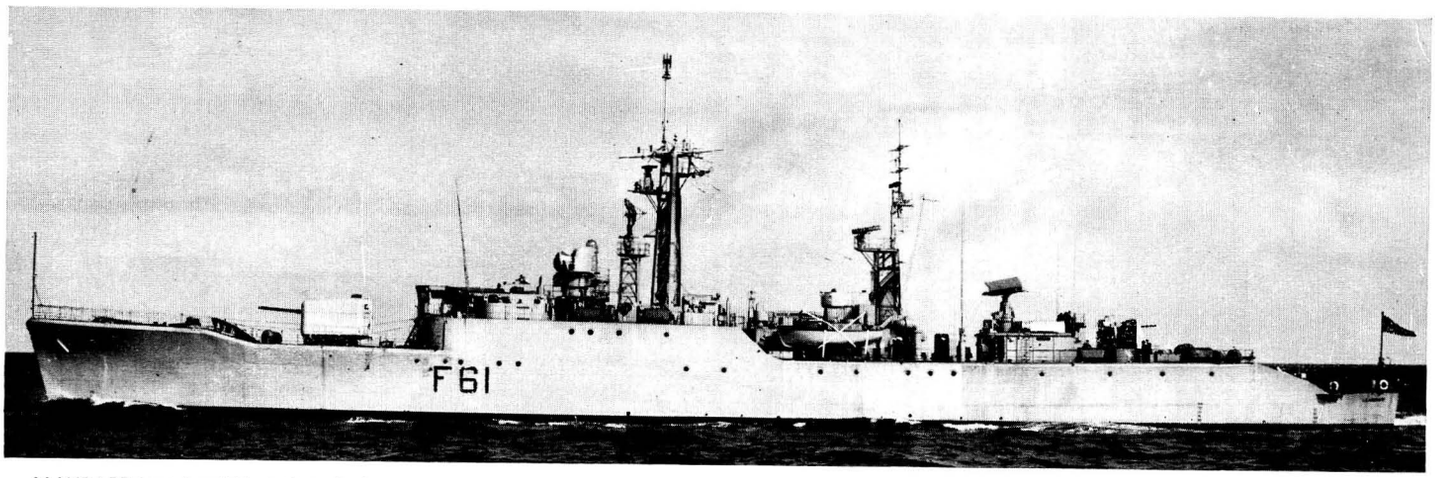
A ship of this class, originally to have been named *Panther*, built by John Brown & Co. Ltd., Clydebank, originally intended for the Royal Navy, was transferred to the Indian Navy and renamed *Brahmaputra*, see Indian section. Another *Panther* was projected to take her place, but this ship will not now be built as a unit of this class or under that name (see *Nomenclature Notes* on following page).

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 37	*Jaguar*	Wm. Denny & Bros. Ltd., Dumbarton	30 July 1947	12 Dec. 1959
F 14	*Leopard*	H.M. Dockyard, Portsmouth	23 May 1955	30 Sep. 1958
F 27	*Lynx*	John Brown & Co. Ltd., Clydebank	12 Jan. 1955	14 Mar. 1957
F 34	*Puma*	Scott's Shipbuilding & Engineering Co. Ltd., Greenock	30 June 1954	24 Apr. 1957

AIRCRAFT DIRECTION FRIGATES



LINCOLN (latest aircraft direction frigate) 1960. *Official*

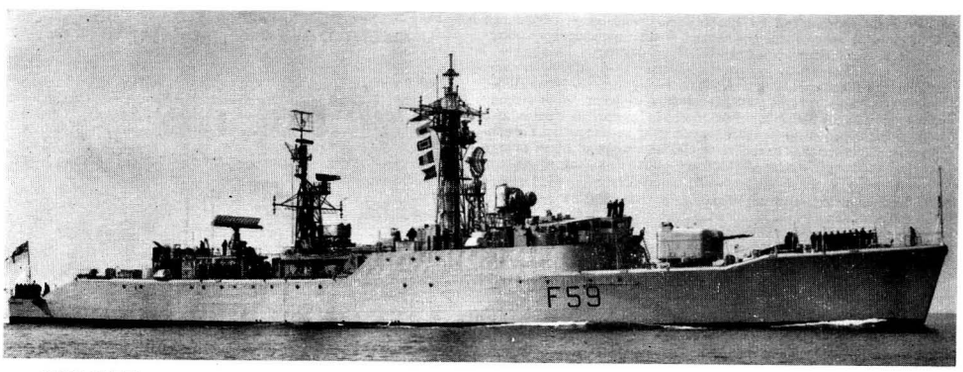


LLANDAFF (port broadside surface view) 1959, *Official*

4 "Salisbury" Class. Type 61

(Diesel Aircraft Direction Type)

	CHICHESTER **LINCOLN**	**LLANDAFF** **SALISBURY**
Displacement:	2,170 tons *standard* (2,350 tons *full load*), revised figures	
Dimensions:	320 (*pp.*), 330 (*w.l.*), 339¾ (*o.a.*) × 40 × 11½ feet	
Guns:	2—4·5 inch, 2—40 mm. AA. (1—40 mm. AA. in *Lincoln*) see *Guided Missile Notes*	
A/S weapons:	Squid triple-barrelled depth charge mortar	
Machinery:	8 Admiralty standard range diesels in four engine rooms. 2 shafts. B.H.P.: 12,380=25 kts. revised figures. Gas turbine alternator in *Llandaff* (see *Engineering Notes*)	
Oil fuel:	230 tons	
Complement:	207 (9 officers, 198 ratings) *Llandaff* 206 (8 officers) *Lincoln* 210 (10 officers)	



CHICHESTER 1962, *Wright & Logan*

General Notes

Salisbury, the prototype ship, was laid down on 23 Jan. 1952. *Chichester*, *Lincoln* and *Llandaff* were ordered on 28 June, 1951. *Lincoln* was laid down in June 1955. Construction is all welded and the design is largely prefabricated in such a manner as to allow for rapid building in emergency. These ships have highly developed electronic equipment. The construction of the fifth ship, *Exeter*, ordered under the 1956-57 Navy Estimates, was cancelled owing to the 1957 defence economies. Fitted with stabilisers (except in *Salisbury*). The frigates of this class are designed primarily for the direction of carrier-borne and shore based aircraft. They will also serve as a lighter type of destroyer in offensive operations.

Radar Notes

Chichester carries a new type of radar display on the foremast and mainmast. The radar on the foremast consists of a "spoked" aerial of the "cartwheel" type (without rim).

Guided Missile Notes

A single 40 mm. AA. gun, mounted in *Lincoln* as a temporary measure, will eventually be replaced by a "Seacat" guided missile launcher and director.

Nomenclature Notes

All ships of this class are named after cathedral cities. A fifth ship was to have been named *Exeter*. A sixth ship, to have been named *Coventry*, was originally ordered as the *Panther* and is now to be built as *Penelope* (see *Nomenclature Notes* under "Leander" class and "Leopard" class on preceding pages). A seventh ship was to have been named *Gloucester*.

Photograph Notes

Starboard quarter and starboard bow views of *Salisbury* appear in the 1957-58 (Diamond Jubilee) edition. Starboard quarter and port bow views of *Llandaff* appear in the 1958-59 edition (in Addenda). A large starboard bow view of *Chichester* appears in the 1958-59, 1959-60 and 1960-61 editions. A port quarter view of *Salisbury* appears in the 1959-60 to 1961-62 editions.

Displacement Notes

The originally designed standard displacement was 1,738 tons, but with alterations and additions during construction the ships in fact turned out heavier.

Reconstruction Notes

Salisbury is undergoing extended refit. Her after funnel and lattice mast combination has been replaced by a single tall funnel with AD aerial on top.

Engineering Notes

It is officially stated that H.M.S. *Salisbury* has twin screws and is powered by Admiralty Standard Range 1, heavy oil engines coupled to propelling shafts through hydraulic couplings and oil operated reverse and reduction gear boxes. These engines, of the latest Admiralty design, were manufactured by Messrs. Vickers-Armstrongs, Barrow, who also made the engines of similar design for driving the ship's electric generators. The hull was built and machinery and other fittings installed by Devonport Dockyard.

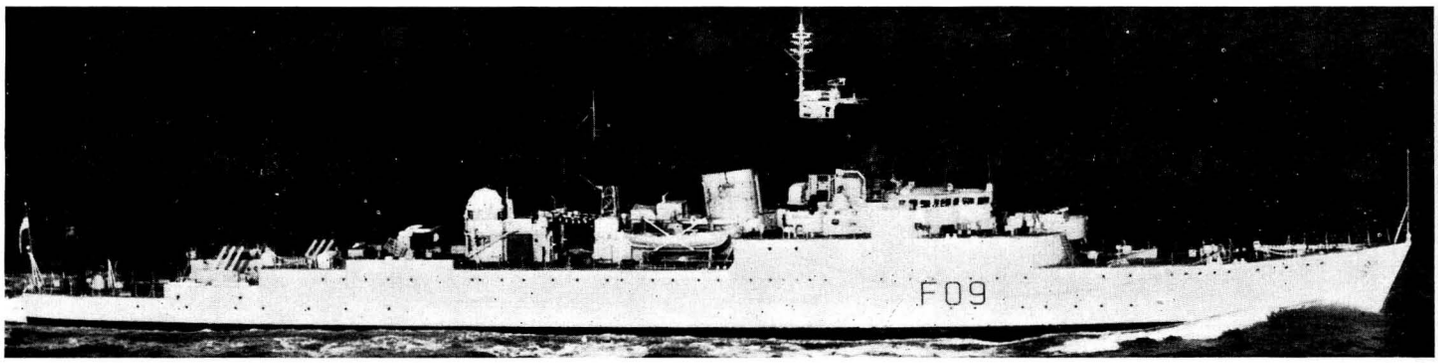
It was officially stated in 1958 that H.M.S. *Llandaff* has similar main engines manufactured by Messrs. British Polar, of Glasgow. Engines of similar design for driving the ship's electric generators were manufactured by Messrs. Vickers-Armstrongs, Barrow-in-Furness. The *Llandaff* is the only Type 61 frigate to have a 500 kw. gas-turbine alternator and three diesel generators. Other ships of the class, and also Type 41 frigates, have four diesel generators. This new gas-turbine alternator was manufactured by Messrs. W. H. Allen & Sons, of Bedford.

The *Lincoln* is fitted with controllable pitch propellers, which are 12 feet in diameter, manufactured by Messrs. Stone Marine & Engineering Co. Ltd.

The fuel tanks have a compensating system so that sea water replaces oil fuel as it is consumed.

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 59	*Chichester*	Fairfield S.B. & Eng. Co. Ltd., Govan, Glasgow	21 Apr. 1955	16 May 1958
F 99	*Lincoln*	Fairfield S.B. & Eng. Co. Ltd., Govan, Glasgow	6 Apr. 1959	7 July 1960
F 61	*Llandaff*	Hawthorn Leslie (Shipbuilders) Ltd., Hebburn-on-Tyne	30 Nov. 1955	11 Apr 1958
F 32	*Salisbury*	H.M. Dockyard, Devonport	25 June 1953	27 Feb. 1957

FAST ANTI-SUBMARINE FRIGATES (ex-Destroyers)



TROUBRIDGE (frigate type bridge, gun on break of forecastle) 1962, *Official*

15 "Type 15" 1st. Rate 'T" "U", "V", "W", and "Z" Classes
(Fully Converted from Destroyers)

GRENVILLE (Leader)
TROUBRIDGE
ULSTER
UNDAUNTED
URANIA
URCHIN
URSA
VENUS
VERULAM
VIRAGO
VOLAGE
WAKEFUL (ex-*Zebra*)
WHIRLWIND
WIZARD
ZEST

Displacement:	2,030 tons *light*, 2,240 tons *standard* (2,880 tons *full load*) (displacement figures vary slighty)
Dimensions:	339½ (*pp.*), 350 (*w.l.*), 362¾ (*o.a.*) × 35⅔ × 13¾ (*load*) feet
Guns:	2—4 inch (twin mount), 2—40 mm. Bofors AA.
A/S weapons:	"U" class, *Troubridge* and *Zest*: 2 Limbo three-barrelled depth charge mortars "V" and "W" class: 2 Squid triple-barrelled depth charge mortars
Tubes:	Provision for tubes. 8 Homing torpedo tubes fitted in *Ulster*, 4 fixed on each side. 3 tubes on starboard side in *Undaunted*
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed), 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type water tube
Oil fuel:	570 to 600 tons
Radius:	2,800 to 3,000 miles at 20 kts.
Complement:	174 to 195 (15 officers, 180 ratings)

Notes on Zest

Fully converted from destroyer into fast anti-submarine frigate at H.M. Dockyard, Chatham Feb. 1954-Mar. 1956. Has twin 40 mm. mouting on break. Photograph in the 1960-61 and 1961-62 editions.

Notes on "W" Class

Wakeful (converted by Scotts) and *Whirlwind* (converted by Palmers) were fully converted from destroyers in 1952-1953, *Wizard* (converted by H.M. Dockyard, Devonport) in 1954. Their fully converted sister ship *Wrangler* was transferred to the South African Navy on 29 Nov. 1956, and renamed *Vrystaat*. *Wakeful* was refitted with higher open bridge in 1959 for Portsmouth Squadron duties and her 4 inch gun mounting removed and replaced by a deckhouse. *Wizard* was fitted with the new type of open bridge in 1960 for employment in the Dartmouth Training Squadron.

A photograph of *Whirlwind* appears in the 1957-58 to 1959-60 editions, and of *Wakeful* in the 1960-61 and 1961-62 editions.

Of the original flotilla of eight "W" class destroyers two, the *Wessex* and *Whelp*, were transferred to the South African Navy in 1950-52 and renamed *Jan van Riebeeck* and *Simon van Stel*, respectively, and two, the *Kempenfelt* and *Wager*, were sold to Yugoslavia in 1957.

Notes on "V" Class

Verulam was converted by H.M. Dockyard, Portsmouth, *Vigilant* by J. I. Thornycroft & Co. Ltd., Woolston, Southampton, *Volage* by J. Samuel White & Co. Ltd., Cowes, 1952. In *Venus* and *Vigilant* an open and enlarged bridge was built in 1955 with a large deck house abaft it in place of the twin 40 mm. Bofors AA. guns for use in the Dartmouth Training Squadron. *Verulam*, without 4 inch, Bofors, squids or director, serves as trials ship with the Underwater Weapons Establishment, Portland, for testing new A/S equipment. Photograph of *Virago* in the 1954-55 to 1960-61 editions.

Of the original flotilla of eight "V" class destroyers, the *Valentine* and *Vixen* were transferred to the Royal Canadian Navy early in 1944 (renamed *Algonquin* and *Sioux*) and the flotilla leader *Hardy* was lost in the Second World War.

Notes on "U" Class

Four converted 1952-53, *Ulster* at H.M. Dockyard, Chatham *Ulysses* at H.M. Dockyard, Devonport, *Urchin* by Barclay Curle, *Undaunted* by J. Samuel White & Co. Ltd., Cowes. *Urania* (by Harland & Wolff, Liverpool), and *Ursa* (by Palmers, Hebburn) converted 1953-54. *Ulster* has bowl-shaped sponson at the break and "Leopard" type bridge. *Grenville* and *Undaunted* are fitted with helicopter platform aft. *Urchin* now has an open and enlarged bridge and is attached to the Dartmouth Training Squadron. *Undaunted* is attached to the Joint R.A.F.-R.N. Anti-Submarine School at Londonderry. Photographs of *Grenville* in the 1958-59 edition and of *Ulster* and *Urania* in the 1959-60 to 1961 edition.

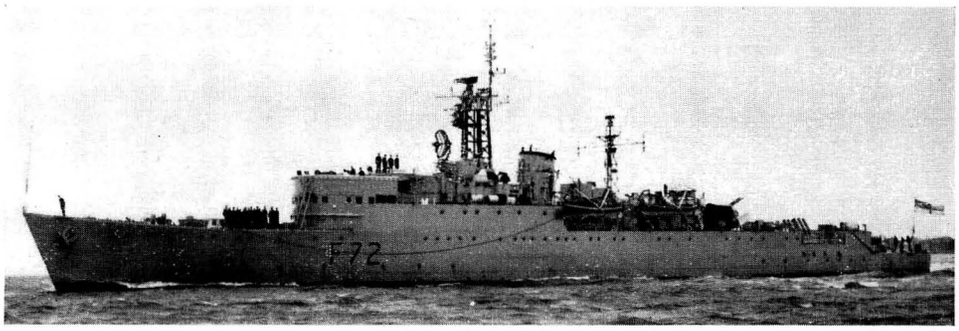
Notes on Troubridge

This ship is different from early Type 15's. Conversion started by H.M. Dockyard, Portsmouth in 1955, and completed by J. Samuel White & Co. Ltd., Cowes, on 29 July 1957. Has "Leopard" type bridge. Boilers work at a pressure of 300 lb. per sq. in. superheated to 640 deg. F.

Teazer, *Tenacious*, *Termagant*, *Terpsichore*, *Tumult*, *Tuscan* and *Tyrian*, originally of this class, were converted (limited) to fast anti-submarine frigate ; see following page.

Recent Disposals

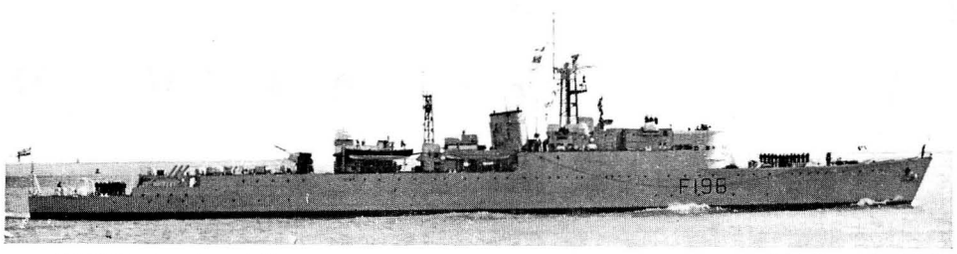
Ulysses and *Undine* are for disposal in 1962. *Vigilant* is for disposal at the end of 1962.



WIZARD 1962, *Wright & Logan*



UNDAUNTED (helicopter platform aft) 1962, *Wright & Logan*



URCHIN (enlarged open bridge 1961, *Tom Molland Ltd.*



VENUS (open and enlarged bridge) 1960, *Wright & Logan*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 197	*Grenville*	Swan, Hunter & Wigham Richardson, Ltd.	1 Nov. 1941	12 Oct. 1942	27 May 1943
F 09	*Troubridge*	John Brown & Co. Ltd., Clydebank	10 Nov. 1941	23 Sep. 1942	8 Mar. 1943
F 83	*Ulster*	Swan, Hunter & Wigham Richardson Ltd.	12 Nov. 1941	9 Nov. 1942	30 June 1943
F 53	*Undaunted*	Cammell Laird & Co. Ltd., Birkenhead	8 Sep. 1942	19 July 1943	3 Mar. 1944
F 08	*Urania*	Vickers-Armstrongs Ltd , Barrow	18 June 1942	19 May 1943	18 Jan. 1944
F 196	*Urchin*	Vickers-Armstrongs Ltd., Barrow	26 Mar. 1942	8 Mar. 1943	24 Sep. 1943
F 200	*Ursa*	John I. Thornycroft & Co. Ltd., Woolston	2 May 1942	22 July 1943	1 Mar. 1944
F 50	*Venus*	Fairfield S. B. & Eng. Co. Ltd., Govan	12 Jan. 1942	23 Feb. 1943	28 Aug. 1943
F 29	*Verulam*	Fairfield S. B. & Eng. Co. Ltd., Govan	26 Jan. 1942	22 Apr. 1943	10 Dec. 1943
F 41	*Volage*	J. Samuel White & Co. Ltd., Cowes	31 Dec. 1942	15 Dec. 1943	26 May 1944
F 76	*Virago*	Swan, Hunter & Wigham Richardson Ltd.	16 Feb. 1942	4 Feb. 1943	5 Nov. 1943
F 159	*Wakeful*	Fairfield S. B. & Eng. Co. Ltd., Govan	3 June 1942	30 June 1943	17 Feb. 1944
F 187	*Whirlwind*	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn	31 July 1942	30 Aug. 1943	20 July 1944
F 72	*Wizard*	Vickers-Armstrongs, Ltd., Barrow	14 Sep. 1942	29 Sep. 1943	30 Mar. 1944
F 102	*Zest*	John I. Thornycroft & Co. Ltd., Woolston	21 July 1942	14 Oct. 1943	20 July 1944

Fast Anti-Submarine Frigates (ex-Destroyers)—*continued*

3 Early "Type 15" 1st Rate "R" Class. *(Fully Converted from Destroyers)*

RAPID **RELENTLESS** **ROCKET**

Displacement:	2,030 tons *light*, 2,200 tons *standard* (2,700 tons *full load*)
Dimensions:	358½ (*o.a.*) × 35⅔ × 13¾ (*load*) feet
Guns:	2—4 inch (twin mount), 2—40 mm. Bofors AA.
A/S weapons:	*Relentless* and *Rocket*: 2 Limbo three-barrelled depth charge mortars. Provision for tubes. *Rapid*: 2 Squid triple-barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000 = 36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	174 to 180

General Notes

Relentless and *Rocket*, former fleet destroyers, were converted to prototype fast frigates in 1949-51. Bridges, funnel, masts, superstructure, 4—4·7 inch guns in single mountings, 4—2 pdr. pompoms, 8—20 mm. AA. guns and 8—21 inch tubes in quadruple mountings, were removed entirely and ships stripped down to the bare hull. Forecastle deck was then extended aft, extensive use being made of aluminium to reduce top weight. New superstructure was built up, two short lattice masts stepped, short raked funnel erected, and two anti-submarine mortars, arranged *en echelon*, mounted in after shelter deck. They had a completely new armament, and represented the new conception of a frigate submarine-killer. Conversion of *Relentless* at H.M. Dockyard, Portsmouth, and *Rocket* at H.M. Dockyard, Devonport, was completed in July, 1951. *Rapid* and *Roebuck* were similarly converted in 1952-53 by Alex. Stephen & Sons, Ltd., Govan, Glasgow, and H.M. Dockyard, Devonport, respectively.

Appearance Notes

When first converted *Rocket* had a pronounced rubbing strake forward, but this has been removed. *Relentless* fitted with torpedo tubes for experimental purposes, was refitted 1955-56. *Roebuck* was refitted with an enlarged and open bridge for employment in the Dartmouth Training Squadron.



ROCKET 1959, *Wright & Logan*

Photograph Notes

Starboard bow view of *Roebuck* with enclosed bridge in the 1957-58 edition. Photograph of *Rocket* with rubbing strake forward in the 1957-58 edition.

Recent Disposal

Roebuck is for disposal at the end of 1962.

Class Notes

Of four sister ships *Racehorse* was scrapped (as destroyer) in 1950, and *Raider*, *Redoubt* and *Rotherham* (Leader) were transferred to the Indian Navy (as destroyers) in 1949 and renamed *Rana*, *Ranjit* and *Rajput*, respectively.

Pennant No.	*Name*	*Original Builders*	*Laid down*	*Launched*	*Completed*
F 138	*Rapid*	Cammell Laird & Co. Ltd., Birkenhead	16 June 1941	16 July 1942	20 Feb. 1943
F 185	*Relentless*	John Brown & Co. Ltd., Clydebank	20 June 1941	15 July 1942	30 Nov. 1942
F 193	*Rocket*	Scotts S.B. & Eng. Co. Ltd., Greenock	14 Mar. 1941	28 Oct. 1942	4 Aug. 1943

6 "Type 16" 1st Rate "T" Class. *(Limited Conversion from Destroyers)*

TENACIOUS **TUMULT**
TERMAGANT **TUSCAN**
TERPSICHORE **TYRIAN**

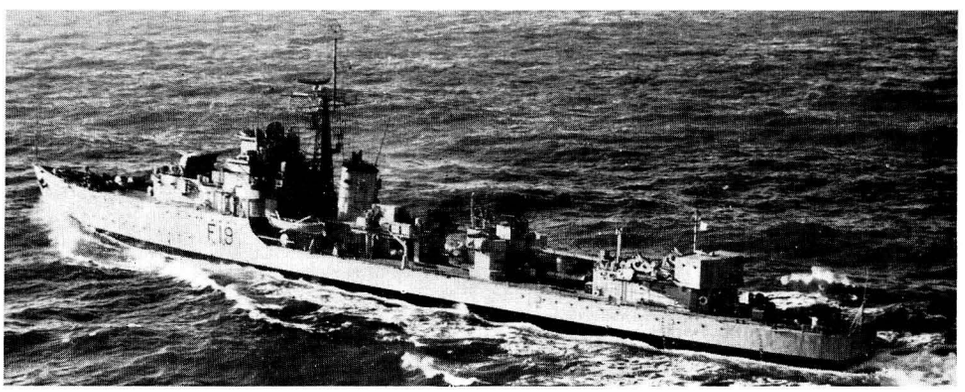
Displacement:	1,810 tons *light*, 2,000 tons *standard* (2,650 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35¾ × 13 (*max.*) feet
Guns:	2—4 inch (twin mount), 7—40 mm. Bofors AA. (twin and singles)
Tubes:	4—21 inch (quadruple mount)
A/S weapons:	2 Squid triple-barrelled depth charge mortars
Machinery:	Parsons geared turbines. S.H.P.: 40,000 = 36·75 kts. (designed). 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	175

General Notes

A simpler form of conversion from fleet destroyers which gave fast ships with good A/S qualities more rapidly than a full conversion of the "Rocket" type. *Tenacious*, conversion of which was completed in 1952, by H.M. Dockyard, Rosyth, was the first of these. *Teazer* and *Tuscan* were converted by Mountstuart, *Termagant* and *Tumult* by Grayson Rollo, *Terpischore* by John I. Thorneycroft & Co., Ltd., Woolston, Southampton, and *Tyrian* by Harland & Wolff, Liverpool and Gordon Klison, Birkenhead.

Appearance Notes

Teazer, *Termagant*, *Terpsichore* and *Tumult* have new bridge structure lighter, higher and more square than the destroyer type of bridge in previous fast frigates of limited conversion.



TERPSICHORE *Added 1962, Official*

Photograph Notes

Photograph of *Tumult* in the 1955-56 to 1957-58 editions, of *Teazer* in the 1958-59 to 1961-62 editions, and of *Termagant* in the 1954-55 to 1961-62 editions.

Class Notes

Former leader of this class, *Troubridge*, was fully converted (see earlier page).

Recent Disposals

Teazer was on the disposal list in 1962.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 44	*Tenacious*	Cammell Laird & Col. Ltd., Birkenhead	3 Dec. 1941	24 Mar. 1943	30 Oct. 1943
F 189	*Termagant*	Wm. Denny & Bros. Ltd., Dumbarton	25 Nov. 1941	22 Mar. 1943	18 Oct. 1943
F 19	*Terpsichore*	Wm. Denny & Bros. Ltd., Dumbarton	25 Nov. 1941	17 June 1943	20 Jan. 1944
F 121	*Tumult*	John Brown & Co. Ltd., Clydebank	16 Nov. 1941	9 Nov. 1942	2 Apr. 1943
F 156	*Tuscan*	Swan, Hunter & Wigham Richardson, Ltd.	6 Sep. 1941	28 May 1942	11 Mar. 1943
F 67	*Tyrian*	Swan, Hunter & Wigham Richardson, Ltd.	15 Oct. 1941	27 July 1942	8 Apr. 1943

2 Smaller "Type 16" 1st Rate *(Limited Conversion from Destroyers)*

ORWELL: **PETARD** (ex-*Persistent*)

	Orwell:	*Petard*:
Name		
Pennant No.:	F 98	F 26
Builders:	John I. Thornycroft & Co. Ltd., Woolston	Vickers-Armstrongs Ltd., Tyne
Laid down:	20 May 1940	26 Dec. 1939
Launched:	2 Apr. 1942	27 Mar. 1941
Completed:	17 Oct. 1942	14 June 1942

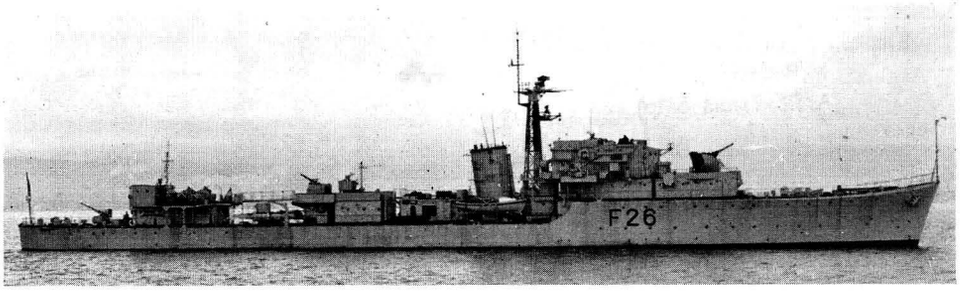
Displacement:	1,800 and 1,825 tons *standard* (2,300 and 2,400 tons *full load*), respectively
Dimensions:	338½ (*w.l.*), 345 (*o.a.*) × 35 × 12¼ (*max.*) feet
Guns:	2—4 inch, 2—40 mm. Bofors AA.,
Tubes:	4—21 inch
A/S weapons:	2 Squid triple-barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000 = 34 kts. Sea speed 31·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	430 tons
Radius:	1,700 miles at 20 kts.
Complement:	170

General Notes

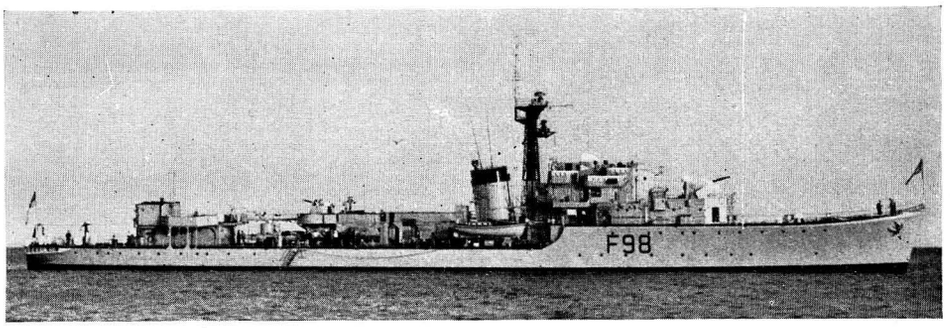
Formerly destroyers, and among the first to be built under the "Emergency" War Programme. Machinery of *Petard* by Vickers-Armstrongs (Barrow). Converted into fast anti-submarine frigates, *Petard*, the last of the Type 16 Limited Conversions, by Harland & Wolff Ltd., Belfast in 1956 and *Orwell* by H.M. Dockyard, Rosyth in 1952. *Orwell* is fitted for minelaying.

Recent Disposals

Paladin was on the disposal list in 1962.

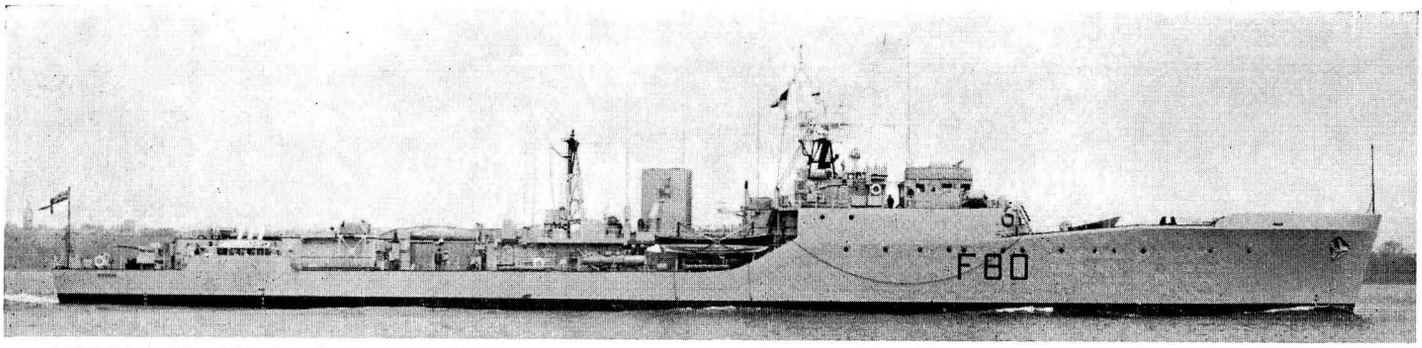


PETARD *Added 1962, Official*



ORWELL (minelaying stern) 1959, *courtesy Godfrey H. Walker, Esq.*

Anti-Submarine Frigates—*continued*



DUNCAN (dead broadside view, showing midship details) *Added 1961, courtesy John J. Thornycroft and Co. Ltd., Woolston, Builders*

12 " Blackwood " Class. Type 14. 2nd Rate (*Anti-Submarine Utility Type*)

BLACKWOOD **GRAFTON** **MURRAY**
DUNCAN (Leader) **HARDY** **PALLISER**
DUNDAS **KEPPEL** **PELLEW**
EXMOUTH **MALCOLM** **RUSSELL**

Displacement:	1,180 tons *standard* (1,536 tons *full load*), revised figures
Dimensions:	300 (*pp.*), 310 (*o.a.*) × 33 × 10¾ (*load*)
Guns:	3—40 mm. Bofors AA. Mk. 9
Tubes:	4—21 inch (two twin). See *Torpedo Notes*
A/S weapons:	2 Limbo three-barrelled depth charge mortars
Machinery:	1 set geared steam turbines. 1 shaft. S.H.P.: 15,000=27·8 kts. (24·5 kts. *max.* continuous sea speed)
Boilers:	2 Babcock & Wilcox
Complement:	111 (7 officers, 104 ratings)

General Notes

These ships, of a very lightly armed type, as far as guns are concerned, were designed for a mainly anti-submarine role. They are of comparatively simple construction. All were built in prefabricated sections. In 1958-59 their hulls were strengthened to enable them to stand up to the severe and prolonged sea and weather conditions experienced on fishery protection duties in Icelandic waters.

Anti-Submarine Notes

The two Limbos can each fire a pattern of large depth bombs with great accuracy, and the projectiles can be set to explode at a predetermined depth. These weapons can be trained over a wider arc than previous types of anti-submarine mortars, and have a much greater and more accurate range.

Torpedo Notes

Blackwood, *Exmouth*, *Malcolm* and *Palliser* mount the torpedo tubes.

Engineering Notes

All engined by their builders, except *Pellow* and *Russell*, by Wallsend Slipway & Eng. Co. Ltd., and *Grafton* and *Malcolm* by The Parsons Marine Steam Turbine Co. Ltd., Wallsend-on-Tyne. It is officially stated that the turbines are of advanced design. The propelling machinery of *Hardy* and *Keppel* includes turbines of English Electric Co. design.

Squadron Notes

Of this class the *Duncan* (on completion as Squadron Leader at the end of 1958), *Malcolm* (in 1959), *Palliser* (April 1958) and *Russell* (mid-January 1958) formed the Royal Navy's Fishery Protection Squadron (with four coastal minesweepers).

Nomenclature Notes

All the ships of this class are named after famous Captains of British naval history

Photograph Notes

Photographs of *Dundas*, *Hardy* and *Keppel* in the 1956-57 and 1957-58 editions, and of *Blackwood* in the 1958-59 edition, larger aerial views of *Grafton* and *Pellew* and surface views of *Duncan* and *Palliser* in the 1959-60 edition.



DUNDAS (starboard bow view, showing bridge layout) 1960, *Skyfotos*



PELLEW (port quarter view, showing Limbos) 1958, *Skyfotos*

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 78	*Blackwood*	John I. Thornycroft & Co. Ltd., Woolston, Southampton	4 Oct. 1955	22 Aug. 1957
F 80	*Duncan*	John I. Thornycroft & Co. Ltd., Woolston, Southampton	30 May 1957	21 Oct. 1958
F 48	*Dundas*	J. Samuel White & Co. Ltd., Cowes, Isle of Wight	25 Sep. 1953	16 Mar 1956
F 84	*Exmouth*	J. Samuel White & Co. Ltd., Cowes, Isle of Wight	16 Nov. 1955	20 Dec. 1957
F 51	*Grafton*	J. Samuel White & Co. Ltd., Cowes, Isle of Wight	13 Sep. 1954	8 Jan. 1957
F 54	*Hardy*	Yarrow & Co. Ltd., Scotstoun, Glasgow	25 Nov. 1953	15 Dec. 1955
F 85	*Keppel*	Yarrow & Co. Ltd., Scotstoun, Glasgow	31 Aug. 1954	6 July 1956
F 88	*Malcolm*	Yarrow & Co. Ltd., Scotstoun, Glasgow	18 Oct. 1955	12 Dec. 1957
F 91	*Murray*	Alex. Stephen & Sons Ltd., Govan, Glasgow	22 Feb. 1955	5 June 1956
F 94	*Palliser*	Alex. Stephen & Sons Ltd , Govan, Glasgow	10 May 1956	13 Dec. 1957
F 62	*Pellew*	Swan, Hunter & Wigham Richardson Ltd , Wallsend-on-Tyne	29 Sep. 1954	26 July 1956
F 97	*Russell*	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne	10 Dec. 1954	7 Feb. 1957

Experimental A/S Frigate

1 "Atherstone" Class. ("Hunt" Type I) (*Asdic Trials Ship*)

BROCKLESBY

Pennant No.:	F 142
Builders:	Cammell Laird & Co. Ltd., Birkenhead
Laid down:	18 Nov. 1939
Launched:	30 Sep. 1940
Completed:	9 Apr. 1941
Displacement:	1,000 tons *standard* (1,490 tons *full load*)
Dimensions:	272½ (*w.l.*), 280 (*o.a.*) × 29 × 7¾ (*mean*), 12½ (*max.*) feet
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=30 kts. (designed). Sea speed 26·75 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	280 tons
Radius:	2,000 miles at 12 kts.
Complement:	146

General Notes

Survivor of a type designed as escort vessels and rated as destroyers until 1947, when they were officially reclassified as anti-aircraft frigates. Used for Asdic Training and trials. She is disarmed and has a deckhouse aft, with variable depth sonar equipment.

Class Notes

A total of 23 of this class were built. *Mendip* transferred to Chinese Navy in May, 1948, was returned to the Royal Navy a year later, but transferred to Egypt in 1949 and captured by Israel in 1956. *Cottesmore* was also transferred to Egypt in 1951. *Meynell* and *Quantock* were purchased by Ecuador in 1955. *Liddesdale* was discarded.

War losses: *Berkeley*, *Exmoor*, *Quorn*, *Tynedale*.

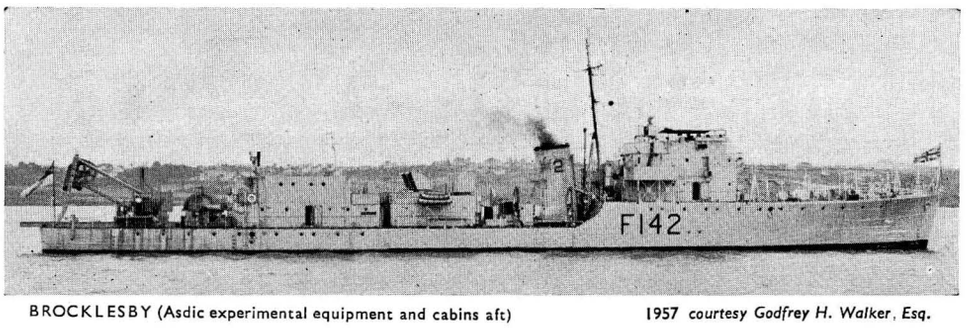
Recent Disposals

Cotswold and *Hambledon* were used as artificial harbour at Harwich. *Eglinton* was scrapped in 1956. *Blencanthra*, *Cleveland*, *Fernie*, *Holderness*, *Pytchley* and *Southdown* were scrapped in 1957. *Atherstone*, *Cattistock*, *Garth* and *Whaddon* were scrapped in 1958.

Recent Disposals of " Bay " Class

Whitesand Bay of this class was scrapped in 1956. *Enard Bay* and *Widemouth Bay* were scrapped in 1957. *Carnarvon Bay*, *Cawsand Bay*, *Largo Bay*, *Padstow Bay*, *St. Austell Bay*, *Start Bay*, *Tremadoc Bay* and *Veryan Bay* were stricken from the Navy List in 1958 and *Wigtown Bay* was also scrapped in 1959. *Cardigan Bay* was for disposal in 1961, and *St. Brides Bay* in 1962.

Bigbury Bay and *Burghead Bay* were transferred to the Portuguese Navy at Plymouth on 11 May 1959 and renamed *Pacheo Pereira* and *Alvares Cabral*, respectively; and *Morecambe Bay* and *Mounts Bay* were transferred to the Portuguese Navy in 1961 after refit at John I. Thornycroft & Co. Ltd., Southampton, and renamed *Vasco da Gama* and *D. Francisco de Almeida*. *Porlock Bay* was transferred to the Finnish Navy in Apr. 1962.



BROCKLESBY (Asdic experimental equipment and cabins aft) 1957 *courtesy Godfrey H. Walker, Esq.*

Recent Disposals of "Black Swan" Class

Woodcock was placed on the disposal list in 1955. *Cygnet*, *Wild Goose* and *Wren* were also scrapped in 1956. *Amethyst*, damaged in action on Yangste, 1949, was scrapped in 1956. *Alacrity* was scrapped at the end of 1956. *Black Swan* of earlier group was also scrapped in 1956. *Hind* (broken up in 1959), *Magpie*, *Nereide*, *Peacock* and *Sparrow* were stricken from the Navy List in 1958. *Opossum* was scrapped in 1960. *Modeste* and *Snipe* were scrapped in 1961 and *Pheasant* was also for disposal. *Crane* was scrapped in 1962.

Whimbrel was transferred to the Egyptian Navy in 1949. *Actaeon*, *Flamingo*, *Hart* and *Mermaid* were allocated to the new West German Federal Navy in 1957, and were delivered in 1958 and 1959.

Erne was reduced to a hulk for Solent Division R.N.R in 1952 and renamed *Wessex*

Ibis and *Woodpecker* were lost in the Second World War

" Hunt " Types II, III and IV

For disposals of " Hunt " types II, III and IV see later page and 1959-60 edition.

Anti-Submarine Frigates—*continued*

7 " Loch " Class. 2nd Rate
(*Anti-Submarine Type*)

LOCH ALVIE
LOCH FADA
LOCH FYNE
LOCH INSH
LOCH KILLISPORT
LOCH LOMOND
LOCH RUTHVEN

Displacement:	1,575 tons *standard* (2,400 tons *full load*)
Dimensions:	286 (*pp.*), 297¼ (*w.l.*), 307 (*o.a.*) × 38½ × 13 feet, 14⅔ feet (*max*)
Guns:	2—4 inch, 6—40 mm. Mk. 9 Bofors AA. (after refit)
A/S weapons	2 Squid triple barrelled depth charge mortars
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	753 tons
Radius:	9,500 miles at 12 kts.
Complement:	124 to 140

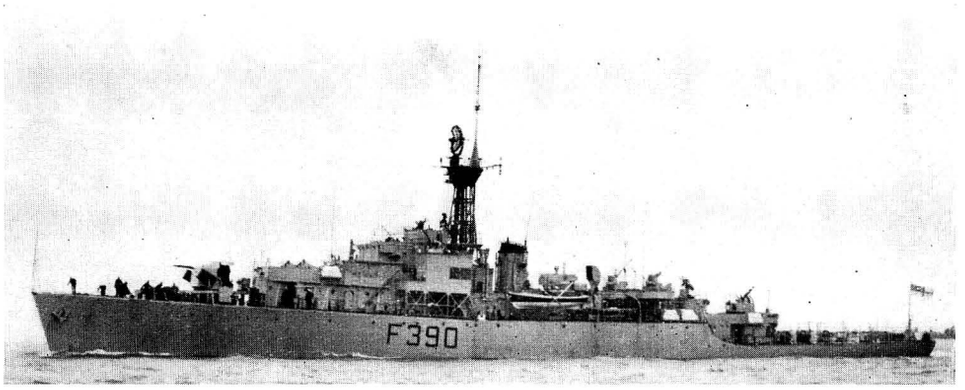
General Notes
Designed primarily for anti-submarine escort duties. Original displacement was 1,435 tons *standard* (2,260 tons *full load*). *Loch Killisport* has a fibre glass shield on " A " gun. As modernised this class are air-conditioned for service in the Persian Gulf.

Gunnery Notes
Before being rearmed and modernised these ships mounted 1—4 inch gun, 4—40 mm. Bofors AA. guns and 4—2 pdr. guns.

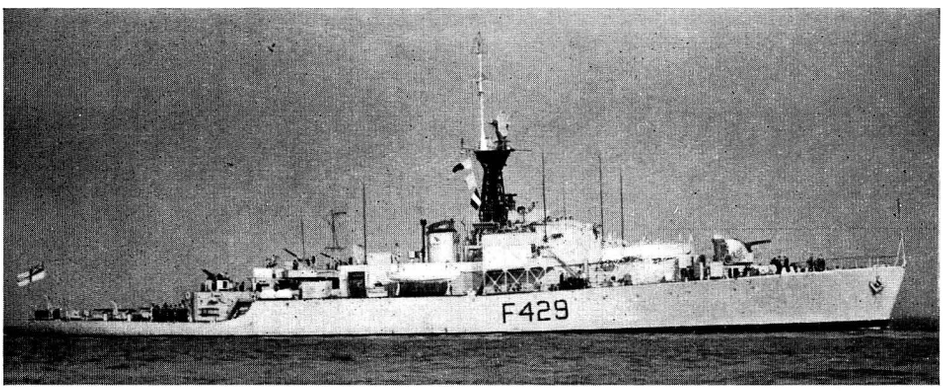
Class Notes
Loch Assynt and *Loch Torridon* were converted into depot and repair ships and renamed *Derby Haven* (transferred to Persia in 1949 as a frigate and renamed *Babr*) and *Woodbridge Haven*, respectively. *Loch Ard*, *Loch Boisdale* and *Loch Cree* were presented to the South African Navy in 1944-45, and renamed *Transvaal*, *Good Hope* and *Natal*, respectively, and *Loch Achanalt*, *Loch Achray*, *Loch Eck*, *Loch Katrine*, *Loch Marlich* and *Loch Shin* were sold to the Royal New Zealand Navy in 1948.

Photograph Notes
Photographs of *Loch Alvie* in the 1954-55 to 1959-60 editions of *Loch Lomond* in the 1958-59 edition, and of *Loch Ruthven* in the 1953-54 to 1957-58 editions.

Recent Disposals
Loch Glendu and *Loch Quoich* were scrapped in 1957. *Loch Scavaig* was scrapped in 1958. *Loch Tarbert* was scrapped in 1959. *Loch Akaig* was scrapped in 1960. *Loch Dunvegan* and *Loch Killin* were approved to be scrapped in 1961 when *Loch Craggie*, *Loch More* and *Loch Veyatie* were also for disposal and *Loch Gorm* is on the sale list. *Loch Tralaig* was disposed of in 1962. *Loch Fyne* and *Loch Ruthven* will be disposed of early in 1963, and the future of *Loch Insh* is under consideration.



LOCH FADA — 1960, *Wright & Logan*



LOCH FYNE — 1959, *Wright & Logan*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 428	*Loch Alvie*	Barclay, Curle & Co. Ltd., Whiteinch, Glasgow	31 Aug. 1943	14 Apr. 1944	21 Aug 1944
F 390	*Loch Fada*	John Brown & Co. Ltd., Clydebank	8 June 1943	14 Dec. 1943	10 Apr. 1944
F 429	*Loch Fyne*	Burntisland Shipbuilding Co. Ltd.	8 Dec. 1943	24 May 1944	9 Nov. 1944
F 433	*Loch Insh*	Henry Robb Ltd., Leith	17 Nov. 1943	10 May 1944	20 Oct. 1944
F 628	*Loch Killisport*	Harland & Wolff Ltd , Belfast	28 Dec. 1943	6 July 1944	9 July 1944
F 437	*Loch Lomond*	Caledon Shipbuilding & Eng. Co. Ltd., Dundee	7 Dec. 1943	19 June 1944	16 Nov. 1945
F 645	*Loch Ruthven*	Charles Hill & Son Ltd., Bristol	4 Jan. 1944	3 June 1944	6 Oct. 1945

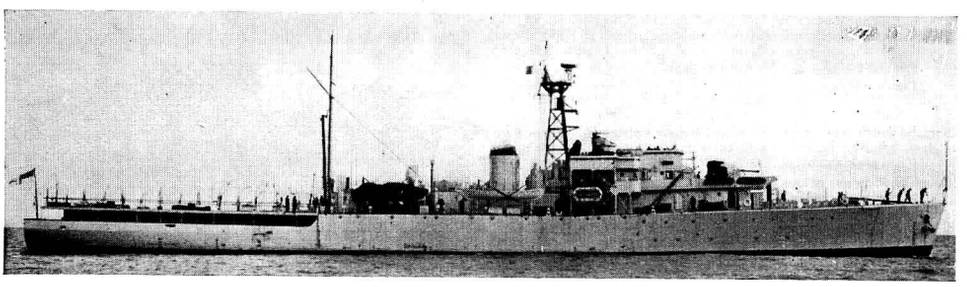
Flag Frigates

2 Modified " Loch-Bay " Type

ALERT (ex-*Dundrum Bay*; ex-*Loch Scamadale*)
SURPRISE (ex-*Gerrans Bay*; ex-*Loch Carron*)

Name:	*Alert*	*Surprise*
Pennant No.:	F 647	F 436
Builders:	Blyth Dry Docks & S.B. Co., Ltd.	Smith's Dock Co., Ltd., South Bank-on-Tees
Laid down:	28 July 1944	21 Apr. 1944
Launched:	10 July 1945	14 Mar. 1945
Completed:	24 Oct. 1946	9 Sep. 1946

Displacement:	1,590 tons *standard* (2,440 tons *full load*)
Dimensions:	286 (*pp.*), 297¼ (*w.l.*), 307½ (*o.a.*) × 38½ × 12¾ feet, 13 feet (*max.*)
Guns:	2—4 inch, 2—40 mm. 4—3 pdr.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	720 tons
Radius:	10,000 miles at 10 to 12 kts.
Complement:	160



ALERT — 1955, *Official*

General Notes
Originally frigates of " Loch " class, these ships were to have been completed as units of " Bay " class, but were modified with reduced armament and extra accommodation to serve as Despatch Vessels or Commanders-in-Chief's " yachts " on Far East and Mediterranean Stations, respectively. *Surprise* was refitted as a temporary Royal Yacht for the Coronation Naval Review at Spithead on 15 June 1953, the twin 4 inch gun mounting in " B " position being removed to provide an inspecting platform dais for Her Majesty The Queen. Rated as Despatch Vessels until 1961 when they were officially reclassified as Flag Frigates.

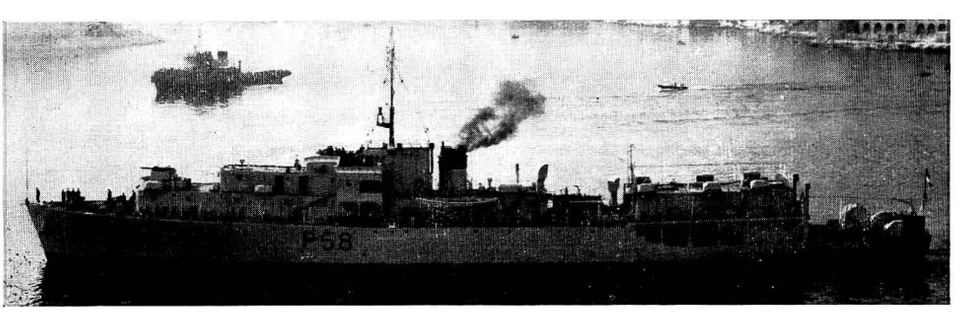
Photograph Notes
Photographs of *Surprise* appear in the 1947-48 to 1957-58 editions.

Minesweeper Support Ship (Ex-Frigate)

1 Modified " Loch " Class

WOODBRIDGE HAVEN (ex-*Loch Torridan*)

Pennant No.	P 58
Builders:	Swan, Hunter & Wigham Richardson, Ltd., Wallsend-on-Tyne
Laid down:	2 May 1944
Launched:	13 Jan. 1945
Completed:	19 Oct. 1945
Displacement:	1,652 tons *standard* (2,460 tons *full*
Dimensions:	286 (*pp.*), 297¼ (*w.l.*), 307½ (*o.a.*) × 38½ × 14 feet
Guns:	2—40 mm. Bofors AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	725 tons
Radius:	10,000 miles at 10 kts.
Complement:	160

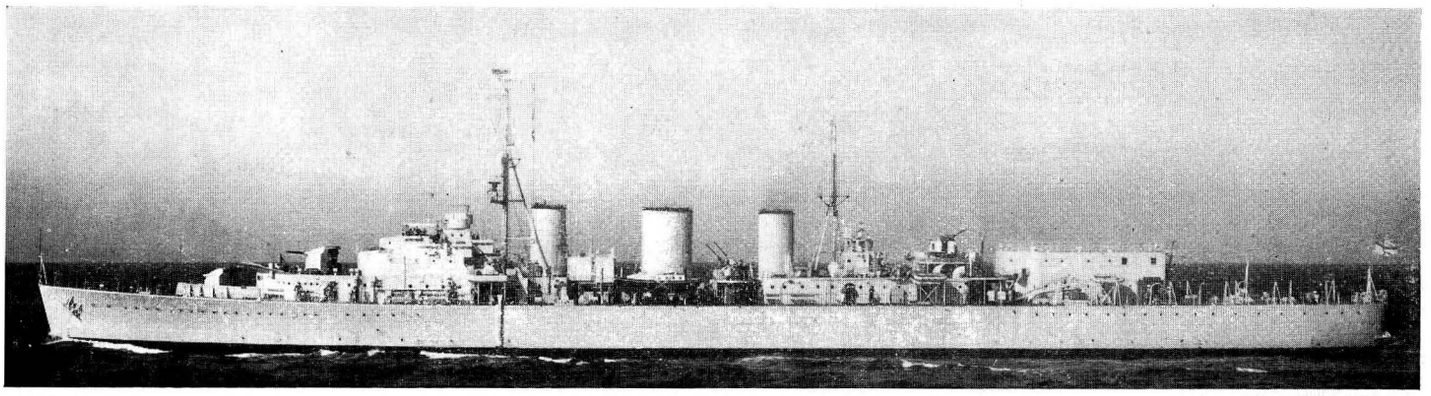


WOODBRIDGE HAVEN — 1960, *A. & J. Pavia*

General Notes
Built as a " Loch " class frigate but converted into a Submarine Depot and Repair Ship. Used as a submarine target ship 1946-54. Headquarters Ship of 2nd Minesweeping Squadron in the Mediterranean in 1955, and Captain Inshore Flotilla, Mediterranean, in 1959. Reclassified as Minesweeper Support Ship in 1960.

Class Notes
Sister ship *Derby Haven* (ex-*Loch Assynt*) was transferred as a frigate to the Imperial Iranian Navy (Persia in 1949 and renamed *Babr* (Panther).

FAST MINELAYERS



MANXMAN

Added 1961, Official

2 "Manxman" Class

ARIADNE **MANXMAN**

	Ariadne	*Manxman*
Name:	*Ariadne*	*Manxman*
Pennant No.:	N 65	N 70
Builders and Engineers:	Alex. Stephen & Sons Ltd., Govan, Glasgow	
Laid down:	15 Nov. 1941	24 Mar. 1939
Launched:	16 Feb. 1943	5 Sep. 1940
Completed:	9 Oct. 1943	20 June 1941

Displacement: *Ariadne*: 2,650 tons *standard* (3,700 tons *full load*), *Manxman* 3,000 tons (4,000 tons *full load*)

Dimensions: 400½ (*pp.*), 418 (*o.a.*) × 40 × 14⅔ (*mean load*) feet (16 feet *max.*)

Guns: *Ariadne*, 4—4 inch, 11—40 mm. Bofors AA.; *Manxman*, 4—4 inch (two twin mounts forward), 6—40 mm. Bofors AA.

Mines: 108 (156 capacity) reduced in *Manxman*

Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 72,000=40 kts. designed *max.* (sea speed 37 kts., speed at load draught 33·5 kts.)

Boilers: 4 Admiralty 3-drum type

Oil fuel: 750 tons

Radius: 1,000 miles at 40 kts.

Complement: 240

General Notes

Manxman was built under the 1938 Estimates; *Ariadne* under the war construction programme. Former ship was torpedoed by an enemy submarine and badly damaged in Nov. 1942. War losses of this type: *Abdiel*, *Latona*, *Welshman*, all 1938 Programme.

Appearance Notes

The armament of *Manxman* differs considerably from that of *Ariadne*. In *Manxman* a long deck house was built on abaft the mainmast at the end of 1955, the after twin 4-inch gun mounting having been removed.

Conversion Notes

Manxman is being converted into a Minesweeper Support Ship at H.M. Dockyard, Chatham, at a cost of £1,000,000, to be completed in 1963.

Photograph Notes

A large starboard quarter view of *Manxman* appears in the 1957-58 edition.

Recent Disposal

Sister ship *Apollo* was discarded in 1961 and scrapped in 1962.

ICE PATROL SHIP (ex-Netlayer)

PROTECTOR

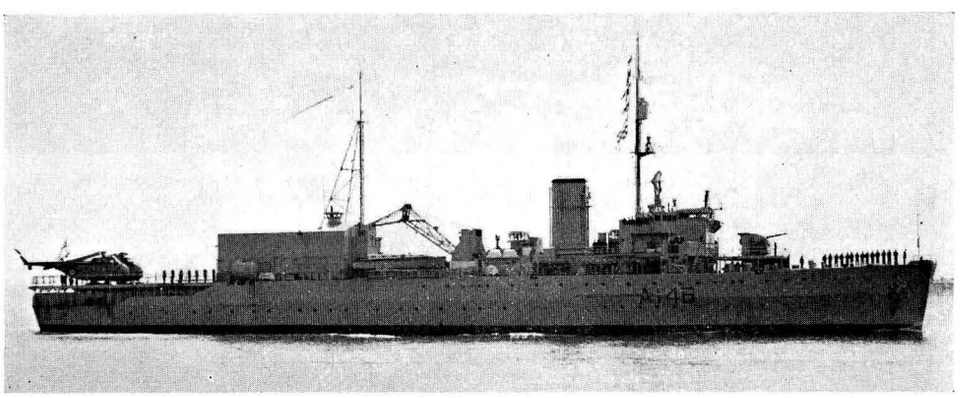
Pennant No.:	A 146
Builders:	Yarrow & Co. Ltd., Scotstoun
Laid down:	15 Aug. 1935
Launched:	20 Aug. 1936
Completed:	31 Dec. 1936
Converted:	10 May 1955 (see *Notes*)
Displacement:	3,450 tons *standard* (4,250 tons *full load*) revised figures
Dimensions:	310 (*pp.*), 338 (*o.a.*) × 53 × 15¼ (*mean load*) feet
Guns:	2—4 inch (twin mount), 4—20 mm. Oerlikon AA., 4—3 pdr. saluting
Aircraft:	2 helicopters
Machinery:	British Thomson-Houston geared turbines. S.H.P.: 9,000=20 kts. (Re-engined in 1945.)
Boilers:	2 Admiralty 3-drum type
Oil fuel:	690 tons
Complement:	238

General Notes

Originally designed for netlaying and target towing. Ordered under the 1934 Estimates. The designed displacement was 2,860 tons standard, since increased.

Conversion Notes

Refitted in 1955 for service in the Falkland Islands Dependencies with helicopter hangar, landing deck aft, enclosed bridge and enclosed look-out. The 4-inch guns were mounted forward instead of aft and 4—20 mm. were suppressed. Strengthened against ice. Employed in lieu of a frigate, as a guardship and Antarctic survey ship. Refitted in 1957 with remodelled bridge, etc. Refitted in 1958 with small tripod mainmast stepped on the hangar, and crane amidships etc. Officially reclassified as Ice Patrol Ship in 1959. Refitted by J. Samuel White & Co. Ltd., Cowes, in 1961 and by John I. Thornycroft & Co. Ltd., Woolston in 1962.



PROTECTOR

1960, Keith Long

Recent Disposal

Protector's original sister ship, the netlayer *Guardian*, was disposed of in 1962 (see photograph and full particulars in the 1961-62 and earlier editions).

LANDING SHIP HEADQUARTERS (Ex-Frigate)

1 "River" Class

MEON

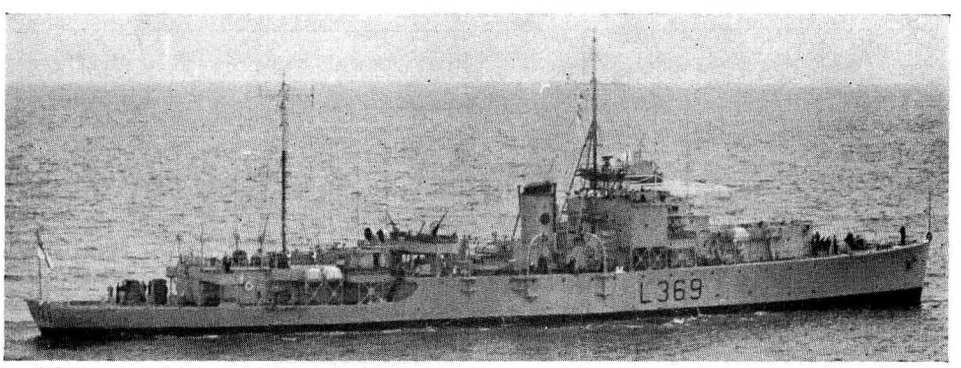
Pennant No.:	L 369 (ex-F 269)
Builders:	A. & J. Inglis, Ltd., Glasgow
Laid down:	31 Dec. 1942
Launched:	4 Aug. 1943
Completed:	31 Dec. 1943
Displacement:	1,370 tons *standard* (2,200 tons *full load*)
Dimensions:	283 (*pp.*), 295 (*w.l.*), 301½ (*o.a.*) × 36¾ × 13 feet.
Guns:	2—40 mm., 4—20 mm.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. (sea speed 18 kts.)
Boilers:	2 Admiralty 3-drum type
Oil fuel:	640 tons
Radius:	9,500 miles at 12 kts.

General Notes

Originally a unit of the "River" class frigates. Pennant No. changed from F 269 to L 369 in 1958 when the forward 40 mm. gun was removed. *Meon* and *Waveney* were converted from the original frigate type to "Landing Ship Headquarters (Small)."

Disposal Notes

Sister ship *Waveney* was scrapped in 1958. For disposals of "River" class frigates see page 271 and 1959-60 edition.



MEON

1961, A. & J. Pavia

Recent Disposals of Frigates of other Classes

"Castle" Class:—*Amberley Castle*, *Pevensey Castle* and *Rushen Castle* were sold to the Air Ministry as Weather Ships. *Dumbarton Castle*, *Farnham Castle*, *Lancaster Castle*, *Morpeth Castle* and *Oxford Castle* were scrapped in 1961.

Modified "Black Swan" Class (Navigational Training Ships):—*Starling* is on the sales list, and *Redpole* was scrapped in 1961.

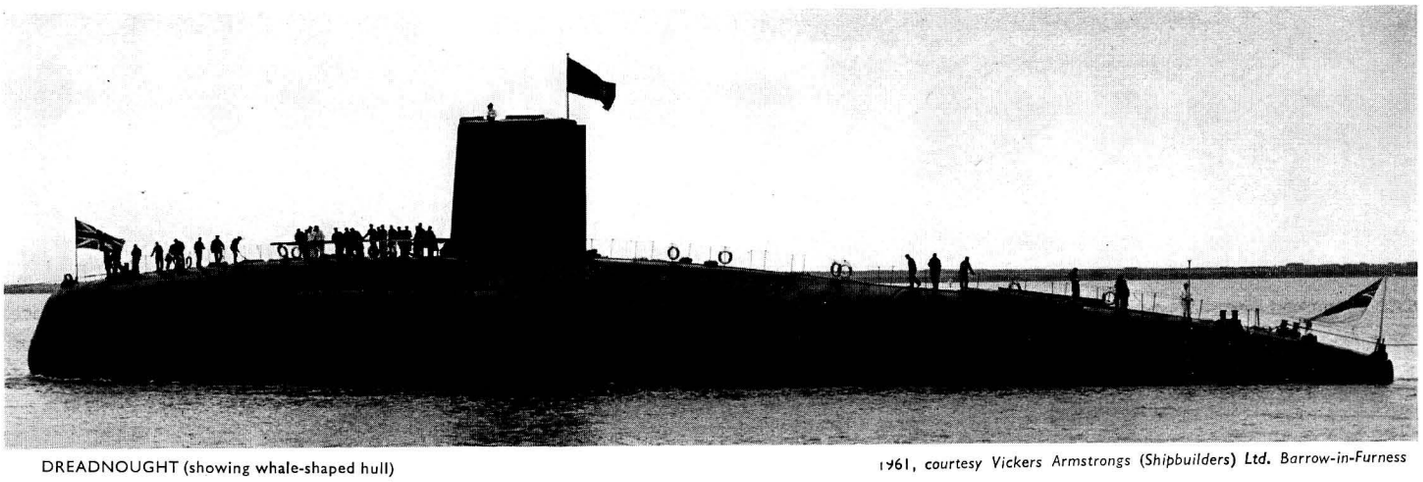
"River" Class:—*Balinderry* was scrapped in 1961 and *Derg* reduced to an office ship in reserve, little more than a hulk.

"Hunt" Group:—"Brecon" Class (Type IV): *Brecon* is a fender ship and is for disposal, and *Brissenden* is on the sales list. "Albrighton" Class (Type III): *Talybont* was scrapped in 1961. "Blankney" Class (Type II): *Wilton* was scrapped in 1960, and *Farndale* put on the sales list.

Modified "Aberdeen" Class:—*Fleetwood* was scrapped in 1960 (sailed from Portsmouth on 7 Oct. 1959 for breakers' yard at Tyneside).

Full particulars, photographs and detailed disposals of all ships of all these classes since the end of the Second World War, appear in the 1959-60 edition.

SUBMARINES



DREADNOUGHT (showing whale-shaped hull) 1961, *courtesy Vickers Armstrongs (Shipbuilders) Ltd. Barrow-in-Furness*

Nuclear Powered Submarines

Hunter Killer (*Anti-Submarine*) Type

1 — 1 Projected

S 103

Notes

The Ministry of Defence stated on 10 Aug. 1962 that a third nuclear powered submarine for the Royal Navy was to be ordered from Vickers-Armstrongs Ltd.

VALIANT

Pennant No.:	S 102
Builder:	Vickers-Armstrongs (Shipbuilders) Ltd.
Engineers:	Rolls Royce Ltd.
Ordered:	Aug. 1960
Prefabrication began:	Feb. 1961
Laid down:	22 Jan. 1962
Displacement:	3,500 tons
Dimensions:	266 × 33 × 27 feet
Tubes:	21 inch homing
Machinery:	British prototype, pressurised-water cooled nuclear reactor. Geared steam turbines
Complement:	88 (11 officers and 77 ratings)

General Notes

The Admiralty announced on 31 Aug. 1960 that the contract for a second nuclear powered submarine had been awarded to Vickers-Armstrongs (Shipbuilders Ltd.). The principal sub-contractors will be Vickers-Armstrongs (Engineers) Ltd., for the machinery and its installation, and Messrs. Rolls Royce and Associates for the nuclear steam raising plant. Her hull will be broadly of the same Admiralty design as that of *Dreadnought*, but she will be slightly larger. She is scheduled to be completed late in 1964.

Engineering Notes

It is officially stated that her reactor core will be made in Great Britain, and her machinery will be of British design and manufacture, after the pattern of the shore prototype now being installed in the Admiralty Reactor Test Establishment at Dounreay.

The contract for the design and manufacture of the main propulsion steam turbines and condensers has been awarded to the English Electric Company. The machinery will be built at their Rugby works.

Laurence, Scott & Electromotors Ltd. have been entrusted with the order for the design and manufacture of the electrical propulsion machines and control gear.

Anti-Submarine Notes

The Admiralty states that she will be equipped to hunt and kill enemy submarines and surface warships, and she will also be designed to carry an asdic that can detect at much greater ranges than those at present fitted in British conventional submarines. She will not carry ballistic missiles and could not be converted to do so, as ballistic missile submarines are of a different size and design.

Nomenclature Notes

The name origenally chosen for this second nuclear powered submarine was *Inflexible*.

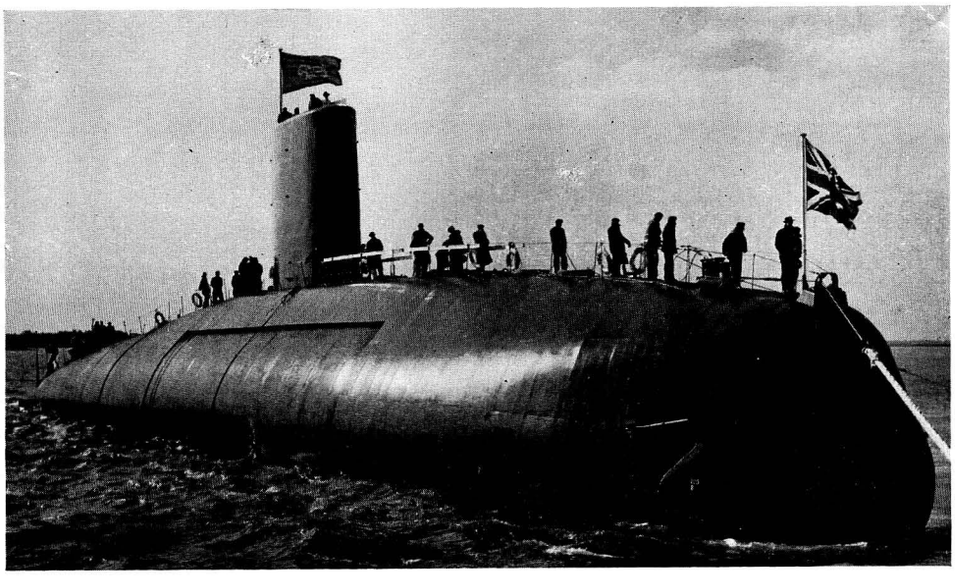
1 New Construction

DREADNOUGHT

Pennant No.:	S 101
Builders:	Vickers-Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness
Engineers:	Rolls-Royce Ltd. and Westinghouse Electric Corporation, U.S.A.
Laid down:	12 June 1959
Launched:	21 Oct. 1960
Displacement:	3,000 tons *standard*, *circa* 3,500 tons *surface*, 4,000 tons *submerged*
Dimensions:	265¾ × 32½ × 26 feet
Tubes:	6-21 inch (bow). All internal
Machinery:	Pressurised water cooled nuclear reactor. 1 shaft. Geared steam turbines. Speed: 30 kts. (*approx.*) (See *Engineering Notes*.)
Complement:	88 (eleven officers, 77 ratings)

General Notes

The Royal Navy's first nuclear powered submarine, specially designed to hunt and destroy enemy underwater craft. A prominent feature of her design is her whale-shaped hull, the near-perfect streamlining giving maximum underwater efficiency, while the fin-like conning tower is also aimed at reducing " drag " to a minimum. She will be capable of continuous high underwater speed and have long endurance. Her hull is British built, but her nuclear plant was manufactured in the United States. It was announced by the Admiralty on 10 Aug. 1959 that the General Dynamics Corporation, U.S.A., had been awarded a contract for help in the construction of the *Dreadnought*.



DREADNOUGHT 1960, *courtesy Vickers-Armstrongs (Shipbuilders) Ltd. Barrow-in-Furness*

Engineering Notes

A complete nuclear reactor for installation in the *Dreadnought* has been purchased in the United States. The General Dynamics Corporation provided design, material and technical assistance in the installation of the propulsion system. The propulsion plant itself was placed under contract to the Westinghouse Electric Corporation by Rolls-Royce Ltd., who acted as agents for the Admiralty.

Britain's first atomic submarine engine is being built at Dounreay, Scotland, in a recently constructed plant.

The British reactor will be installed in a second hull which is being ordered in 1960 (see notes above).

Manoeuvrability Notes

This submarine will manoeuvre and travel underwater with movements similar to those of an aircraft banking in flight, as she will have controls like those in an aeroplane.

Illustration Notes

An Admiralty artist's cutaway impression (frontispiece) and another official underwater depiction appear in the 1959-60 edition, and a photograph of the official model, showing whale-shaped hull, appears in the 1960-61 edition.

Dimensional Notes

It is officially stated that the Dreadnought will be twice the size of present submarines.

Nomenclature Notes

The name *Dreadnought* was approved by Her Majesty The Queen for this, the first British atomic powered submarine. This announcement was made by the Parliamentary and Financial Secretary to the Admiralty when introducing the 1957-58 Navy Estimates.

The last two vessels named *Dreadnought* in the Royal Navy were battleships launched in 1875 and 1906.

Official Statement

As originally planned, the *Dreadnought* was to have been fitted with a British designed and built nuclear reactor, but in 1958 an agreement was concluded with the United States Government for the purchase of a complete set of propulsion machinery of the type fitted in the U.S.S. *Skipjack*. This agreement has enabled the submarine to be launched far earlier than would have otherwise been possible. The supply of this machinery is being made under a contract between the Westinghouse Electric Corporation and Messrs Rolls-Royce. The latter are also being supplied with design and manufacturing details of the reactor and with safety information and have now set up a factory in this country with a view to manufacturing similar cores.

Key personnel from the crew of the *Dreadnought* have been trained by the U.S. Navy. This type of training will later be carried out in the United Kingdom when the reactor and machinery installed ashore at Dounreay are in operation.

The *Dreadnought* will have a hull of British design both as regards structural strength and hydrodynamic features, although the latter are based on the pioneering work of the U.S. Navy in the *Skipjack* and *Albacore*. From about amidships aft, the hull lines will closely resemble the *Skipjack* class so as to accommodate the propulsion machinery. The forward end of the boat is wholly British in concept. In the Control Room and the Attack Centre the instruments are fitted into consoles.

The reactor is a pressurized water type, which will drive a single shaft through steam turbines. Almost every electrical and mechanical part of the propulsion machinery is installed in duplicate so as to minimise the inconvenience of breakdowns. In addition, every control feature of the power plant and of the boat has been duplicated. These innovations will ensure an extremely high standard of reliability which, combined with the need to refuel at only very long intervals, will give her the ability like other nuclear submarines to undertake patrols of particularly long endurance at continuous high underwater speeds.

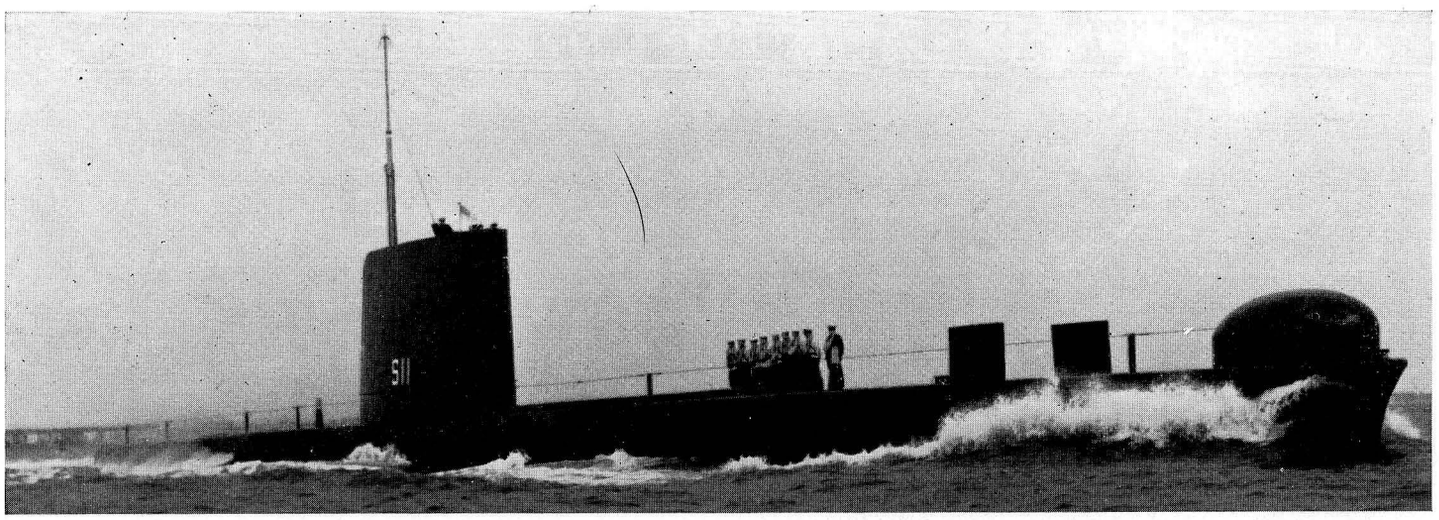
Accommodation for her complement of eleven officers and 77 ratings will be of a standard which it has been impossible to attain in any previous submarine. The improved water distilling plant will for the first time provide unlimited fresh water for shower baths and for the washing machines in the fully equipped laundry. Separate mess spaces will be provided for senior and junior ratings, arranged on either side of a large galley, which is equipped for serving meals on the cafeteria system. Particular attention has been paid to the decoration and furnishings of the living quarters and to the recreational facilities which will include cinema equipment, an extensive library and tape recordings, all features which will help to offset the monotony associated with prolonged underwater voyages.

She will be fitted with an inertial navigation system and with means of measuring her depth below ice.

Her primary role is as a submarine hunter killer for which purpose she will be equipped with the latest developments in underwater weapons and detection.

The *Dreadnought* is expected to commission late 1962.

T



ORPHEUS (Pennant No. changed from S 45) 1962, *Wright & Logan*

Attack Submarines
New Construction
12 + 1 "Oberon" Class

OBERON **ONSLAUGHT** **ORPHEUS**
OCELOT **OPOSSUM** **OSIRIS**
ODIN **OPPORTUNE** **OTTER**
OLYMPUS **ORACLE** **OTUS**

Displacement: 1,610 tons *standard*, 2,030 tons *surface*, 2,410 tons *submerged*
Dimensions: 295¼ (*o.a.*), 241 (*pp.*) × 26½ × 18 feet
Tubes: 8—21 inch for homing torpedoes
Machinery: Admiralty Standard Range diesels. Electric drive
Complement: 68 (6 officers, 62 ratings).

General Notes

This class have improved detection equipment capable of high underwater speeds. They are able to maintain continuous submerged speeds in any part of the world and are equipped to fire homing torpedoes.

Construction Notes

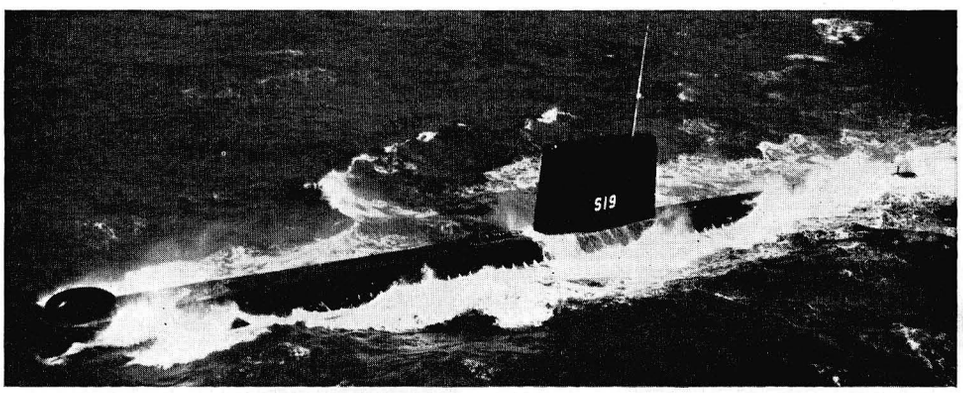
For the first time in any British submarine plastic was used in the superstructure construction. Before and abaft the bridge the superstructure is of glass fibre laminate in *Oberon*, *Odin* and *Onslaught*. The superstructure of *Orpheus* is of light alloy aluminium.

Laid down: *Onslaught* on 8 Apr. 1959, *Odin* on 27 Apr. 1959, *Otter* on 14 Jan. 1960, *Olympus* on 4 Mar. 1960, *Oracle* on 26 Apr. 1960, *Ocelot* on 17 Nov. 1960, *Otus* on 31 May 1961, *Opossum* on 21 Dec. 1961, *Osiris* on 26 Jan. 1962.

In addition to the twelve named above another submarine of the same class was laid down at H.M. Dockyard, Chatham on 27 Sep. 1962.

Pennant Notes

The pennant numbers of all "O" class submarines were changed in 1961 (see *Note* on page 295).



OBERON (Pennant number now changed to S 09) 1961, *Official*

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
S 09	*Oberon*	H.M. Dockyard, Chatham	18 July 1959	Feb. 1961
S 17	*Ocelot*	H.M. Dockyard, Chatham	5 May 1962	
S 10	*Odin*	Cammell Laird & Co. Ltd., Birkenhead	4 Nov. 1960	3 May 1962
S 12	*Olympus*	Vickers-Armstrongs Ltd., Barrow-in-Furness	14 June 1961	7 July 1962
S 14	*Onslaught*	H.M. Dockyard, Chatham	24 Sep. 1960	14 Aug. 1962
S 19	*Opposum*	Cammell Laird & Co. Ltd., Birkenhead		
S 20	*Opportune*	Scotts Shipbuilding & Engineering Co. Ltd., Greenock		
S 16	*Oracle*	Cammell Laird & Co. Ltd., Birkenhead	26 Sep. 1961	
S 11	*Orpheus*	Vickers-Armstrongs Ltd., Barrow-in-Furness	17 Nov. 1959	25 Nov. 1960
S 13	*Osiris*	Vickers-Armstrongs Ltd., Barrow-in-Furness		
S 15	*Otter*	Scotts' Shipbuilding & Engineering Co. Ltd., Greenock	15 May 1961	28 Aug. 1962
S 18	*Otus*	Scotts' Shipbuilding & Engineering Co. Ltd., Greenock		

8 "Porpoise" Class

CACHALOT **NARWHAL** **SEALION**
FINWHALE **PORPOISE** **WALRUS**
GRAMPUS **RORQUAL**

Displacement: 1,605 tons *standard*, 2,030 tons *surface*, 2,405 tons *submerged*
Dimensions: 295¼ (*o.a.*), 241 (*pp.*) × 26½ × 18 feet
Tubes: 8—21 inch. Internal (6 bow and 2 stern)
Machinery: Admiralty Standard Range diesel-electric. All battery drive. High submerged speed
Complement: 71 (6 officers, 65 ratings, *Porpoise* 64, *Walrus* 62).

General Notes

It was officially stated in April 1958 that the *Porpoise*, the first operational submarine designed since the Second World War to be accepted into service, is able to undertake continuous submerged patrol in any part of the world. The design of her hull and superstructure reflects her capabilities of high underwater speed and great diving depth. Stress has also been laid on long endurance, both on the surface and submerged, whether on batteries or snorting. She is propelled on the surface, or when snorting, by diesel-electric drive from Admiralty Standard Range diesels, and from a large battery driving the motors when submerged. The snort equipment has been designed to give maximum snort-charging facilities and to operate in rough sea conditions. Both air and surface warning radar can be operated at periscope depth as well as when surfaced. The general habitability is of the highest standard, with strip lighting and an air conditioning plant which provides drying and either heating or cooling of the air for arctic or tropical service. Oxygen replenishment and carbon dioxide and hydrogen eliminators make it possible for the *Porpoise* to remain totally submerged without even using her snort for several days. Apparatus to distil fresh water from sea water for drinking purposes, and stowage for large quantities of stores and provisions enable her to remain on patrol for months without any outside support.

Engineering Notes

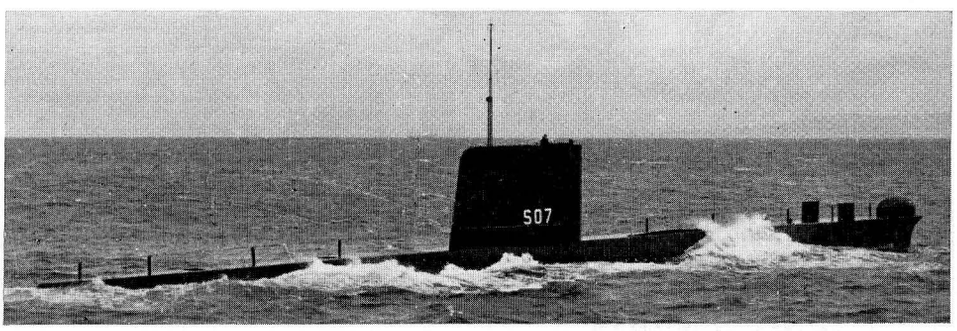
The main propelling machinery was manufactured by the hull builders except in *Cachalot* and *Walrus* by H.M. Dockyard, Chatham.

Electrical Notes

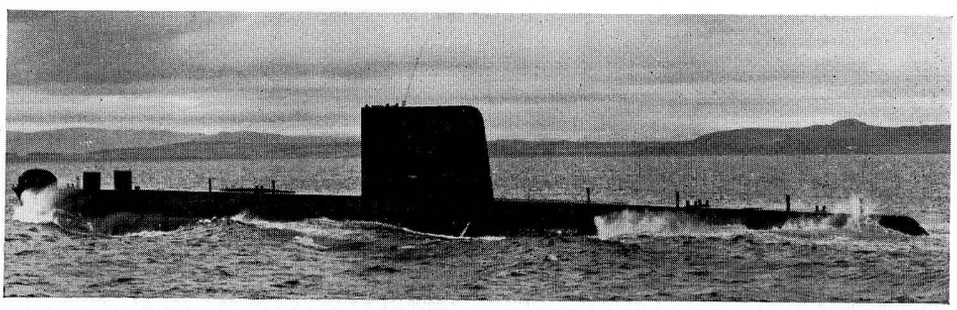
The electric propulsion system in all eight boats was manufactured by The English Electric Co. Ltd., Rugby, and is of a more advanced design than has been employed hitherto.

Photograph Notes

Photographs of *Grampus* and *Porpoise* appear in the 1959-60 edition, a larger photograph of *Porpoise* in the 1958-59 to 1960-61 editions, and photographs of *Narwhal* and *Rorqual* in the 1959-60 and 1960-61 editions.

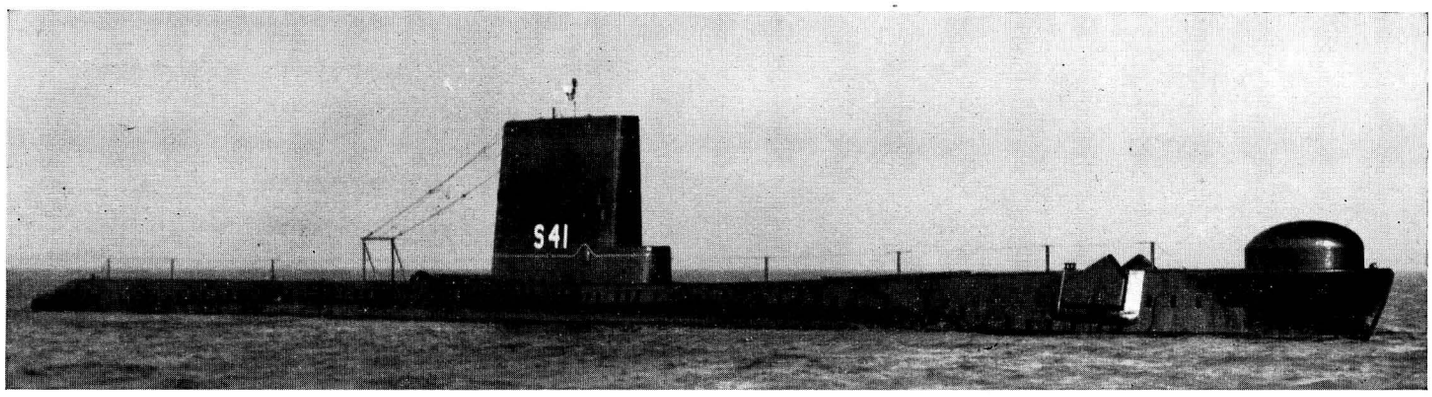


SEALION 1962, *Official*



FINWHALE 1961, *Official*

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
S 06	*Cachalot*	Scotts' Shipbuilding & Engineering Co. Ltd., Greenock	11 Dec. 1957	1 Sep. 1959
S 05	*Finwhale*	Cammell Laird & Co. Ltd., Birkenhead	21 July 1959	19 Aug. 1960
S 04	*Grampus*	Cammell Laird & Co. Ltd., Birkenhead	30 May 1957	19 Dec. 1958
S 03	*Norwhal*	Vickers-Armstrongs Ltd., Barrow-in-Furness	25 Oct. 1957	4 May 1959
S 01	*Porpoise*	Vickers-Armstrongs Ltd., Barrow-in-Furness	25 Apr. 1956	17 Apr. 1958
S 02	*Rorqual*	Vickers-Armstrongs Ltd., Barrow-in-Furness	5 Dec. 1956	24 Apr. 1958
S 07	*Sealion*	Cammell Laird & Co. Ltd., Birkenhead	31 Dec. 1959	25 July 1961
S 08	*Walrus*	Scotts' Shipbuilding & Engineering Co. Ltd., Greenock	22 Sep. 1959	10 Feb. 1961



ALARIC (after being reconstructed and streamlined)

1962, *Official*

15 "A" Class

2 *Cammell Laird & Co. Ltd., Birkenhead*	10 *Vickers-Armstrongs Ltd., (Barrow-in-Furness)*
AENEAS	
ALARIC	**ALCIDE**
	ALDERNEY
1 *H.M. Dockyard, Chatham*	**ALLIANCE**
	AMBUSH
ACHERON	**AMPHION** (ex-*Anchorite*)
	ANCHORITE (ex-*Amphion*)
2 *Scotts S.B. & Eng. Co. Ltd., Greenock*	**ANDREW**
	ASTUTE
ARTEMIS	**AURIGA**
ARTFUL	**AUROCHS**

Displacement:	1,120 tons *standard*, 1,385 tons *surface*, 1,620 tons *submerged*
Dimensions:	221 (*pp.*), 281¾ (*o.a.*), converted boats 283 (*o.a.*) × 22½ × 17 feet
Guns:	1—4 inch, 7 M.G. (4-inch removed in most, see notes)
Tubes:	8—21 inch, 4 bow and 4 stern, 2 stern being external, 20 torpedoes carried (or 22 mines). (Two external torpedo tubes forward were removed in most) see *Torpedo Notes*
Machinery:	8 cyl. Diesels, B.H.P.: 4,300= 19 kts. *surface*; Electric motors. H.P.: 1,250= 8 kts. *submerged*
Oil fuel:	159 tons
Complement:	60

General Notes

These submarines were primarily designed for service in the Pacific, and have a different hull form from "T" type. Construction is entirely welded, and all possess "Snort" breathing equipment. *Alliance* and *Ambush*, so fitted, remained submerged for record periods in 1947-48. On 15 June 1953, *Andrew* completed a 2,500 sea miles voyage under water from Bermuda to the English Channel in 15 days, a record for "snorting" in the Royal Navy.

Gunnery Notes

Some boats of this class had the 4-inch gun removed before reconstruction. Others have mounted the 4-inch gun temporarily after reconstruction.

Conversion Notes

The "A" class have been rebuilt and streamlined in the same way as the American "Guppy" type with an enclosed fin conning tower 26½ feet high. *Artful* was the first to undergo reconstruction in 1955 followed by *Alderney*, *Ambush*, *Anchorite*, *Andrew*, *Artemis*, *Astute*, *Auriga*, *Aurochs*, *Amphion*, *Alliance*, *Acheron* and *Alarie*. Others are also in hand for conversion. *Alderney* and others are fitted with a mounting for a gun. *Aeneas* had a 4-inch gun mounted in Feb. 1960. *Artemis* mounted a 4-inch gun in 1960, after reconstruction.

Torpedo Notes

Few boats of the "A" class retain after external tubes, or any external tubes at all. Modified "A" boats now have 4 bow and 2 stern torpedo tubes, all internal. 16 torpedoes carried.

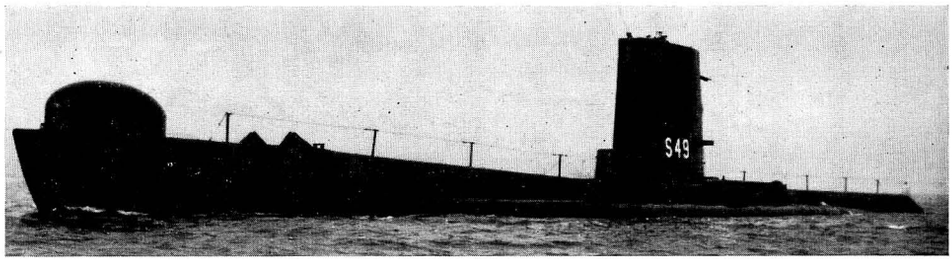
Photograph Notes

An aerial bow view of *Artful* appears in the 1958-59 and 1959-60 edition, a photograph of *Acheron* (before reconstruction) in the 1958-59 edition, of *Anchorite* (before reconstruction) in the 1957-58 and earlier editions, of *Artemis* (after reconstruction) without gun in the 1959-60 edition and with gun in the 1960-61 and 1961-62 editions, of *Alaric* (before reconstruction) in the 1958-59 to 1961-62 editions.

Class Notes

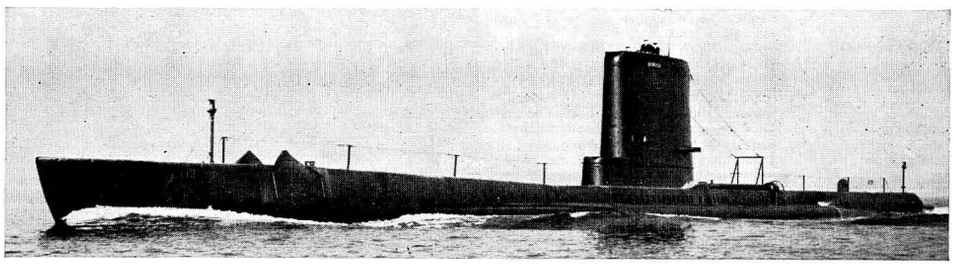
The following 30 units were cancelled, though some had actually been launched: *Abelard*, *Acasta*, *Ace*, *Achates*, *Adept*, *Admirable*, *Adversary*, *Agate*, *Aggressor*, *Agile*, *Aladdin*, *Alcestis*, *Andromache*, *Answer*, *Antaeus*, *Antogonist*, *Anzac*, *Aphrodite*, *Approach*, *Arcadian*, *Argent*, *Argosy*, *Asgard*, *Asperity*, *Assurance*, *Astarte*, *Atlantis*, *Austere*, *Awake*, *Aztec*. The *Affray* was lost in the English Channel on 17 Apr 1951.

Pen. No.	*Name*	*Laid down*	*Launched*	*Completed*
S 61	*Acheron*	26 Aug. '44	25 Mar. '47	17 Apr. '48
S 72	*Aeneas*	10 Oct. '44	25 Oct. '45	31 July '46
S 41	*Alaric*	31 May '44	18 Feb. '46	11 Dec. '46
S 65	*Alcide*	2 Jan. '45	12 Apr. '45	18 Oct. '46
S 66	*Alderney*	6 Feb. '45	25 June '45	10 Dec. '45
S 67	*Alliance*	13 Mar. '45	28 July '45	14 May '47
S 68	*Ambush*	17 May '45	24 Sep. '45	22 July '47
S 43	*Amphion*	14 Nov. '43	31 Aug. '44	27 Mar. '45
S 64	*Anchorite*	19 July '45	22 Jan. '46	18 Nov. '47
S 63	*Andrew*	13 Aug. '45	6 Apr. '46	16 Mar. '48
S 49	*Artemis*	28 Feb. '44	26 Aug. '46	15 Aug. '47
S 96	*Artful*	8 June '44	22 May '47	23 Feb. '48
S 47	*Astute*	4 Apr. '44	30 Jan. '45	30 June '45
S 69	*Auriga*	7 June '44	29 Mar. '45	12 Jan. '46
S 62	*Aurochs*	21 June '44	28 July '45	7 Feb. '47



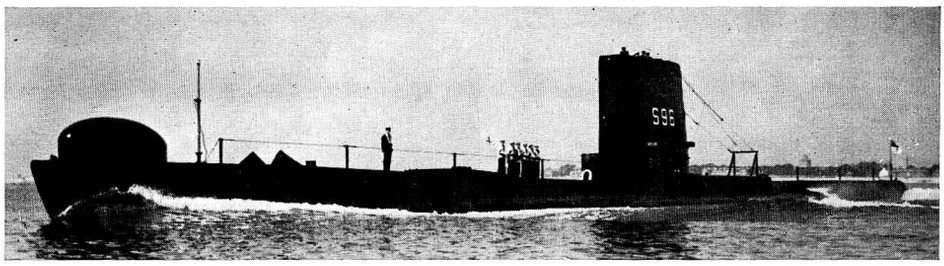
ARTEMIS (without gun)

1962, *Wright & Logan*



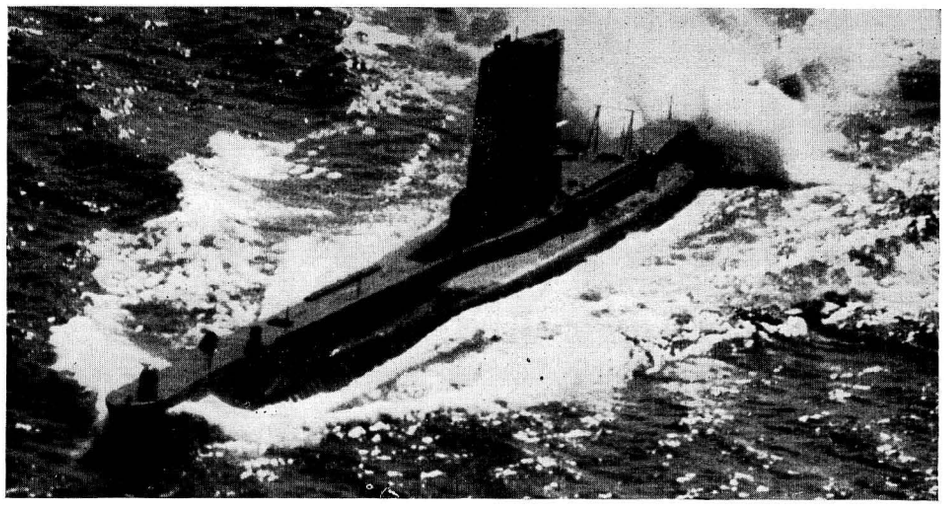
AURIGA

Added 1960, *Wright & Logan*



ARTFUL (after second reconstruction)

1959, *Wright & Logan*



ASTUTE (as converted)

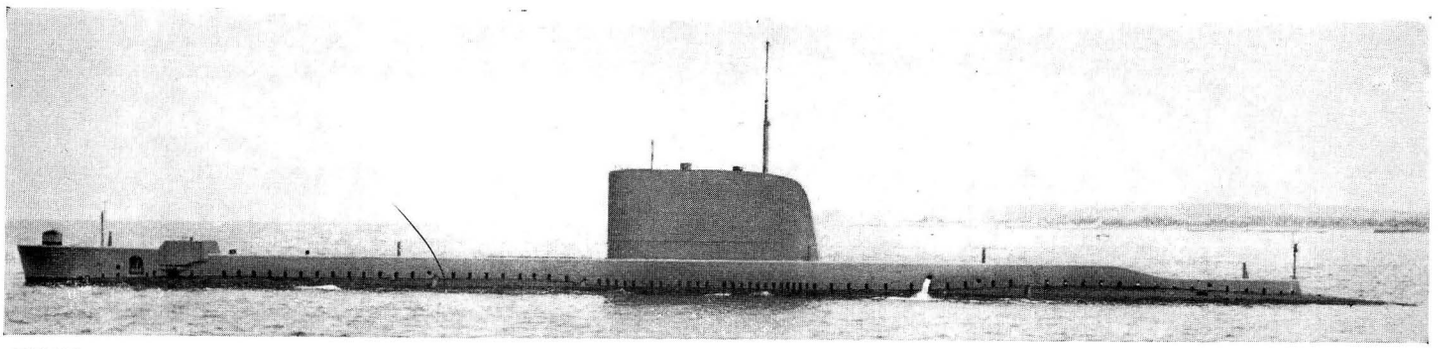
1958, *Official*

Pennant Notes

The pennant numbers of most of the "A" class submarines were changed on 1 May, 1961 (see *Note* at the head of the pennant list on page 295.

Appearance Notes

The appearance of submarines, with or without guns, etc., is liable to change frequently and quickly according to operational and experimental requirements.



TABARD

Added 1961, Official

13 "T" Class

2 *H.M. Dockyard, Chatham*	1 *Scotts S.B. & Eng. Co. Ltd., Greenock*
THERMOPYLAE	**TABARD**
TURPIN	
2 *H.M Dockyard, Devonport*	6 *Vickers-Armstrongs Ltd. (Barrow-in-Furness)*
TOTEM	**TACITURN**
TRUNCHEON	**TALENT** (ex-*Tasman*)
	TAPIR
2 *H.M. Dockyard, Portsmouth*	**TEREDO**
TIRELESS	**TIPTOE**
TOKEN	**TRUMP**

Displacement:	*Talent, Tapir, Teredo, Tireless, Token:* 1,090 tons *standard*, 1,321 tons *surface*, 1,571 tons *submerged* *Taciturn, Thermopylae, Totem, Turpin:* 1,280 tons *standard*, 1,505 tons *surface*, 1,700 tons *submerged* *Tabard, Tiptoe, Trump, Truncheon:* 1,310 tons *standard*, 1,535 tons *surface*, 1,740 tons *submerged* (as reconstructed)
Dimensions:	*Talent, Tapir, Teredo, Tireless, Token:* 265 (*pp.*), 273½ (*o.a.*) × 26½ × 14¾ feet; *Thermopylae, Totem, Turpin:* 285½ (*o.a.*); *Taciturn:* 287½ (*o.a.*); *Tabard, Tiptoe, Trump, Truncheon:* 293½ (*o.a.*)
Guns:	1—4 inch (none in reconstructed boats), 3 M.G. (see *Notes*)
Tubes:	11—21 inch (5 external) as designed or 6—21 inch. 17 torpedoes carried (see *Torpedo Notes*)
Machinery:	Diesels. B.H.P.: 2,500=15¼ kts. *surface*; 2 or 4 Electric motors, H.P.: 1,450 or 2,900=9 kts. *submerged* (15 to 18 kts. in converted boats)
Oil fuel:	132 to 250 tons
Complement:	59 to 65 (6 officers, 59 ratings)

General Notes

Officially described originally as "Patrol" type submarines for general service. Of saddle-tank design, they originally had an endurance equal to a 42-day patrol. All were subsequently fitted with "Snort" equipment. Eight of the surviving boats of this class have been fully converted and since they were rebuilt have been the most advanced operational submarines. From them were developed the new "Porpoise" and "Oberon" classes.

Reconstruction Notes

Rebuilding of the eight boats of the "conversion" type in 1951-56 was drastic. The pressure hull was severed at the engine-room section, the two halves moved apart and a new section built in. The extra space accommodates a second pair of electric motors, clutches between which and the original motors make diesel-electric drive possible, and a fourth battery section is added to give a submerged speed of 15 knots. All guns and external torpedo tubes were removed. Improved periscopes, asdic and radar were installed with a periscopic snort mast. *Tabard* and *Trump* have the bridge built into the huge fin, which houses two periscopes, two radar masts, two snort masts, and an aerial. In the other six the bridge is reduced to a tiny cramped cab before the fin.

Alteration of the five boats of the "modernised" type in 1955-60 was less radical. They were streamlined with the formerly prominent periscope standards and aerials enclosed in a conning tower "fin" or "sail" which also contains the bridge. All guns and external torpedo tubes and all possible obstructions were removed, and the resulting streamlining improved their speed without an increase in engine power. They are also much more silent under water and can use their improved asdics with enhanced efficiency. For specific operations a gun can be quickly inserted in this class..

There is a considerable difference between the super "T" class "Conversions" (*Tabard, Tiptoe, Trump, Truncheon*) which have welded pressure hulls and had an additional section of about 20 feet built into them (*Taciturn* was lengthened by 14 feet, and *Thermopylae, Totem* and *Turpin* by 12 feet), and the "T" class "Streamlines" (*Talent, Tapir, Teredo, Tireless, Token*) which are riveted hulled boats and therefore did not undergo the full conversion. Underwater speed of *Turpin* conversion types (after reconstruction, streamlined hull, more motors, greater batteries) is 15 knots and *Taciturn* is reported to have developed more than twice her previous maximum underwater speed. (unofficial)

Torpedo Notes

Re-constructed boats with no external tubes have only 6—21 inch (4 forward, 2 aft). External tubes removed in *Tabard, Taciturn, Talent, Tapir, Teredo, Thermopylae, Tiptoe, Tireless, Token, Totem, Trump, Truncheon* and *Turpin*. 20 homing torpedoes carried.

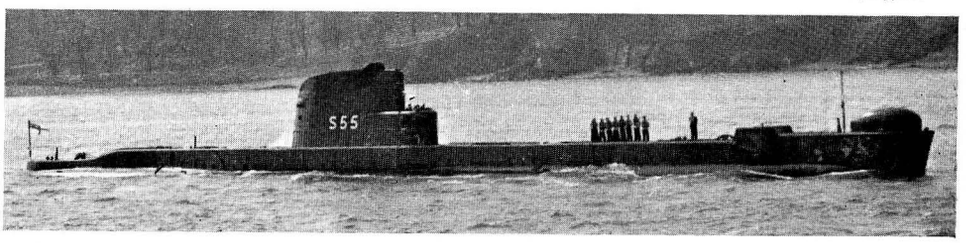
Appearance Notes

Talent, Tapir, Teredo, Tireless and *Token* were modernised and streamlined. *Tabard, Taciturn, Thermopylae, Tiptoe, Totem, Trump, Truncheon*, and *Turpin* were rebuilt on similar lines to the American "Guppy" type. *Talent*, as well as being streamlined, had a gun (old 4 inch remodelled) with no shield, now removed *Turpin* can be fitted with a gun. All non-"Guppy" "T" submarines carried a 4 inch gun: *Tactician, Thule, Trenchant, Trespasser, Tudor.*



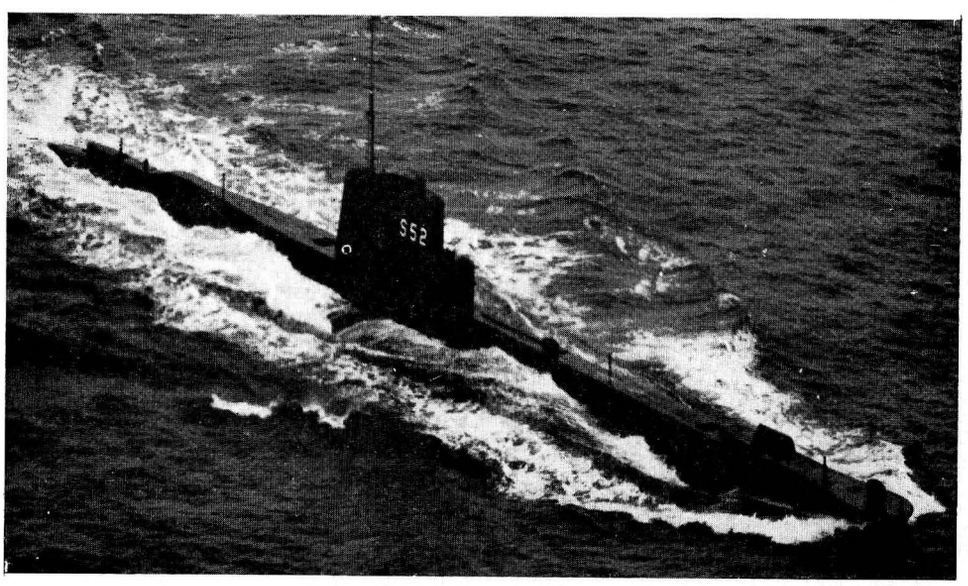
TIRELESS

1961, Skyfotos



THERMOPYLAE

1961, Tom Molland, Ltd.



TOTEM

1960, Official

Photograph Notes

Photographs of *Tiptoe* and *Tabard* appear in the 1959-60 and earlier editions, of *Trespasser* in the 1957-58 and 1958-59 editions, of *Thermopylae* and *Truncheon* in the 1957-58 and earlier editions, of *Tapir* and *Trenchant* in the 1959-60 and 1960-61 editions, and of *Talent* and *Teredo* in the 1958-59 to 1960-61 editions.

Pennant Notes

The pennant number of *Tactician* was changed from S14 to S74 on 1 May 1961.

Second World War losses: *Talisman, Tempest, Thorn, Thunderbolt,* (ex-*Thetis*), *Tigris, Tarpan, Traveller, Trooper, Tetrach, Thistle, Triad, Triton, Triumph, Turbulent, P.311.* Cancelled: *Talent* (I) (*P.343*), *Theban, Thor, Threat, Tiara.*

Pen. No.	*Name*	*Laid down*	*Launched*	*Completed*
S 42	*Tabard*	6 Sep. '44	21 Nov. '45	25 June '46
S 34	*Taciturn*	9 Mar. '43	7 June '44	7 Oct. '44
S 37	*Talent*	21 Mar. '44	13 Feb. '45	26 July '45
S 35	*Tapir*	29 Mar. '43	21 Aug. '44	30 Dec. '44
S 38	*Teredo*	17 Apr. 44	27 Apr. 45	5 Apr. 46
S 55	*Thermopylae*	26 Oct. '43	27 June '45	5 Dec. '45
S 32	*Tiptoe*	10 Nov. '42	25 Feb. '44	13 June '44
S 77	*Tireless*	30 Oct. '41	19 Mar. '43	18 Apr. '45
S 28	*Token*	6 Nov. '41	19 Mar. '43	15 Dec. '45
S 52	*Totem*	22 Oct. '42	28 Sep. '43	9 Jan. '45
S 33	*Trump*	31 Dec. '42	25 Mar. '44	9 July '44
S 53	*Truncheon*	5 Nov. '42	22 Feb. '44	25 May '45
S 54	*Turpin*	24 May '43	5 Aug. '44	18 Dec. '44

Transfer Notes

Talent (renamed *Zwaardris*) and *Tarn* (renamed *Tijgerhaai*) were transferred to the Royal Netherlands Navy. Two lent to the Royal Netherlands Navy in June 1948 were returned to the Royal Navy in 1953, *Tapir* (Netherlands name *Zeehond*) on July 16 and *Taurus* (Netherlands name *Dolfijn*) on Dec. 8.

Class Notes

Talent was swept out of dry dock in Chatham Dockyard on 15 Dec. 1954 when a caisson collapsed; she was subsequently reconstructed ane streamlined with an enclosed conning tower fin which was damaged in collision, while submerged off the Isle of Wight, with an unknown merchant ship, on 8 May 1956.

Recent Disposals

Truculent sank after collision in the Thames Estuary on 12 Jan. 1950, was salvaged on 14 Mar., but was scrapped on 5 Apr. 1950. *Tantalus, Tantivy* and *Templar* were discarded in 1950.

Tradewind was scrapped in 1956. *Taurus* and *Thorough* were approved to be scrapped in 1958 when they awaited tow to the shipbreakers or disposal otherwise as targets.

Telemachus was scrapped in 1960 and *Tally Ho* was also for disposal after use as a harbour training boat and floating classroom for young submariners.

It is officially announced that *Trespasser* was de-equipped for scrapping in 1961. *Tactician* is scheduled for scrapping, and *Trenchant* is also earmarked for disposal. Of the two remaining unconverted boats, *Thule* (damaged in collision in 1960) is for disposal, and *Tudor* will also be disposed of in the near future.

Fast Experimental Submarines
2 "Ex" Class
High Test Peroxide Type

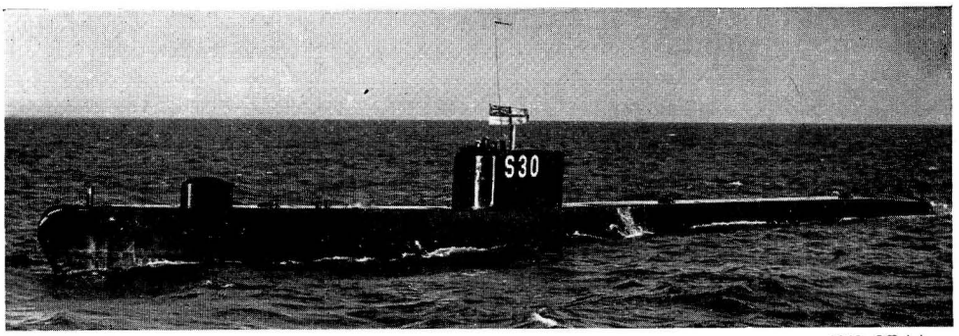
	EXCALIBUR	EXPLORER
Name:	*Excalibur*	*Explorer*
Pennant No.:	S 40	S 30
Builders:	Vickers-Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness	Vickers-Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness
Engineers:	Vickers-Armstrongs (Engineers) Ltd. Barrow-in-Furness	Vickers-Armstrongs (Engineers) Ltd., Barrow-in-Furness
Launched:	25 Feb. 1955	5 Mar. 1954
Completed:	22 Mar. 1958	28 Nov. 1956

Displacement: 780 tons *standard*, *ca* 1,000 tons *submerged*
Dimensions: 178$\frac{1}{12}$ (*pp.*), 225$\frac{1}{2}$ (*o.a.*) × 15$\frac{3}{4}$ × 11 feet
Machinery: Diesel electric. Hydrogen Peroxide plant by Vickers-Armstrongs, Ltd. (see notes)
Speed: More than 25 kts. *submerged*
Complement: *Excalibur*: 41 (6 officers, 35 ratings). *Explorer*: 49 (7 officers, 42 ratings) in peace-time (officially revised figures)

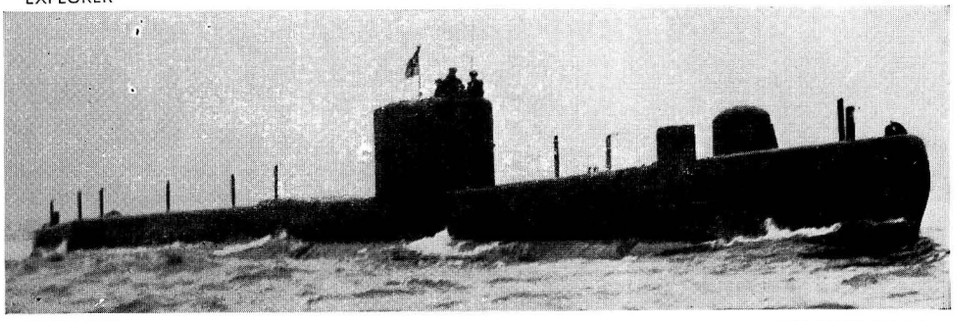
General Notes
Of new streamlined type designed to operate at high underwater speeds. The propulsive machinery is of novel design employing high test peroxide. Fitted with the latest submarine escape arrangements, including the one-man escape chamber, and equipped with the most recent submarine escape breathing apparatus for use by the ship's company in the event of an emergency.

Explorer was the first submarine to be launched for the Royal Navy since the last of the "A" class submarines was launched in 1947. She has served to provide experience in the operation of her diesel-electric-turbine combination and as a fast underwater target to train surface forces in the tactics which would be required to destroy submarines with high underwater speeds. She has long endurance. She was designed by the Admiralty and built by Vickers-Armstrongs Ltd., Barrow-in-Furness, from whom she was provisionally accepted into service on 8 May 1956. She is well streamlined. Most of her superstructure fittings are retractable. Her manoeuvrability submerged at high speed is very good and she is readily controllable at all speeds. Apart from the indications of instruments and a tremor on the depth gauge there is nothing to suggest high speed to the crew when she is submerged. She is unarmed, and her complement of officers and ratings are accommodated in her tender *Miner VIII*.

***Excalibur*, which cost £1,142,000, was provisionally accepted from her builders on 22 Mar. 1958.**



EXPLORER 1960, *Official*


EXCALIBUR *Added* 1960, *Official*

Target Notes
Both *Excalibur* and *Explorer* are to become fast underwater targets for the nuclear powered submarine *Dreadnought* when she commissions in 1962.

Engineering Notes
In these experimental high speed submarines, the main propelling machinery consists of turbines supplied with steam and carbon dioxide produced by burning diesel oil in an atmosphere of steam and oxygen formed by the decomposition of H.T.P. (high test hydrogen peroxide). They are thus able to develop full power when completely submerged and independent of atmospheric oxygen. Conventional means of propulsion at lower speeds is provided by diesel for surface passages and on main motors supplied by batteries when submerged. Officially believed to be the fastest submarines in the world, except the latest nuclear-powered submarines.

Recent Disposals (Midget Type)
Of the three remaining "Midget" Type (X-Craft), namely *Minnow* (X 54), *Shrimp* (X 52) and *Sprat* (X 53), all were on the disposal boat list in 1961. Sister *Stickleback* (X 51) was sold to Sweden on 15 July 1958 and renamed *Spiggen* (Swedish equivalent of "Stickleback").

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3 "S" Class

1 *Cammell Laird & Co. Ltd., Birkenhead* — **SEASCOUT**
1 *Scotts S.B. Eng. Co. Ltd., Greenock* — **SCOTSMAN**
1 *Vickers-Armstrongs, Ltd. Barrow-in-Furness* — **SERAPH** (ex-*P* 219)

Displacement: 715 tons *standard*, 814 tons *surface*, 1,000 tons *submerged*
Dimensions: 202$\frac{1}{2}$ (*pp.*), 217 (*o.a.*) × 23$\frac{3}{4}$ × 10$\frac{1}{2}$ (*mean*) feet
Guns: Removed
Tubes: 6—21 inch (bow), earlier units 7, including 1 external. 13 torpedoes carried
Machinery: Diesels, B.H.P.: 1,900=14·7 kts. *surface*
Electric motors, H.P.: 1,300=9 to 12 kts. *submerged*
Oil Fuel: 44 to 87 tons.
Complement: 48

General Notes
Very handy craft, capable of making a "crash-dive" in 30 seconds. Later units had slightly higher freeboard forward, some had 3 inch instead of 4 inch gun. Latterly they were divided into three types: very fast target and experimental (*Scotsman*); operational (*Scorcher*, *Seadevil*, *Seascout* and *Sentinel*); and Target (*Seraph* and *Solent*).

Reconstruction Notes
Scotsman was refitted, in 1960, with a complete bow of fibre glass.

Protection Notes
Seraph is lightly armoured for protection against the impact of practice torpedoes.

Appearance Notes
Scotsman was modified for experimental purposes. *Seascout* and *Seraph* were modernised by removal of the gun and fitting of Snort, etc.

Class Notes
The following units were cancelled at the end of the Second World War: *Sea Robin*, *Sprightly*, *Surface*, *Surge*.

Second World War losses: *Sahib*, *Saracen*, *Sickle*, *Simoon*, *Stonehenge*, *Stratagem*, *Syrtis*, *Splendid*, *P* 222.

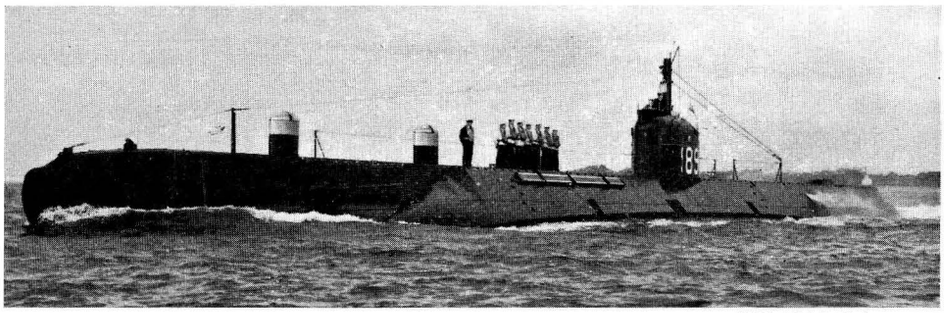
Experimental Notes
Solent was attendant on *Scotsman* for experiments.
Sirdar, laid up in the Forth for over six years, is being expended in experiments by the Naval Construction Research Establishment, at Rosyth.

Photograph Notes
Photographs of *Scotsman* before refit, and of *Scythian* and *Seneschal* appear in the 1959-60 edition, of *Scorcher* and *Solent* in the 1960-61 edition, of *Sentinel* in the 1956-57 to 1960-61 editions, and of *Sea Devil* in the 1961-62 edition.

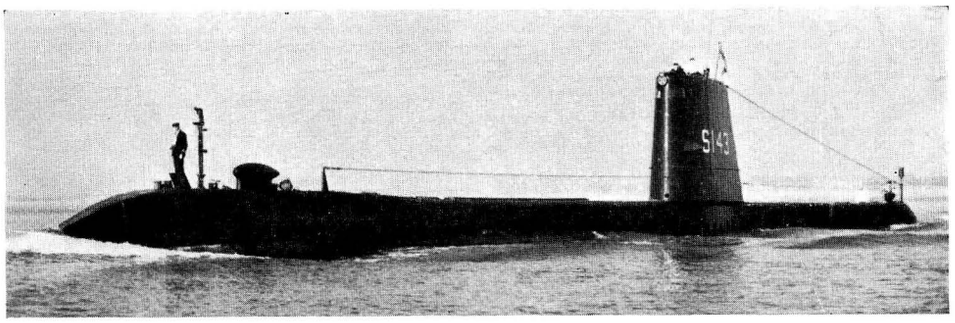
Pen No.	*Name*	*Laid down*	*Launched*	*Completed*
S 143	*Scotsman*	15 Apr. 43	18 Aug. 44	9 Dec. 44
S 153	*Seascout*	1 Apr. 43	24 Mar. 44	19 June 44
S 89	*Seraph*	16 Aug. 40	25 Oct. 41	10 June 42

Transfer Notes
In 1948, *Saga*, *Spearhead* and *Spur* were sold to the Portuguese Navy and renamed *Nautilo*, *Neptune* and *Narval*, respectively. *Satyr*, *Spiteful*, *Sportsman* (lost 23 Sep. 1952 under the French name *Sibylle*) and *Statesman* were transferred to the French Navy, Oct. 1951, to July 1952; but *Spiteful* (on loan under the name *Sirene*) was returned to the Royal Navy on 24 Oct. 1958, but she was subsequently disposed of; *Statesman* (on loan under the name *Sultane*) was returned to the Royal Navy on 5 Nov. 1959, but she was also scrapped in 1960; and *Satyr* (on loan under the name *Saphir*) was returned to the Royal Navy by the French Navy in Aug. 1961 and was awaiting disposal at Rosyth in 1962.

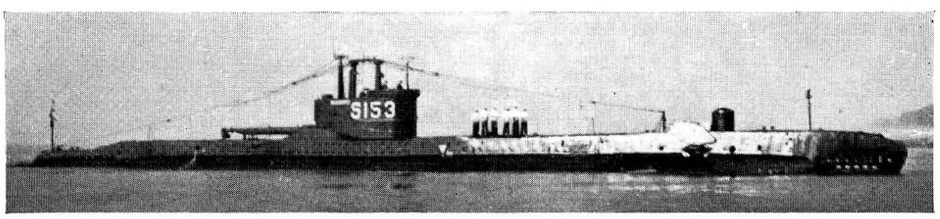
Sanguine and *Springer* were sold to Israel in Oct. 1958 *Springer* was handed over to the Israeli Navy at Portsmouth on 9 Oct. 1958 and renamed *Tanin* (Crocodile) and delivered to Israel in Dec. 1959. *Sanguine*, renamed *Rahar*, was delivered to Israel in May 1960.



SERAPH 1962, *Wright & Logan*



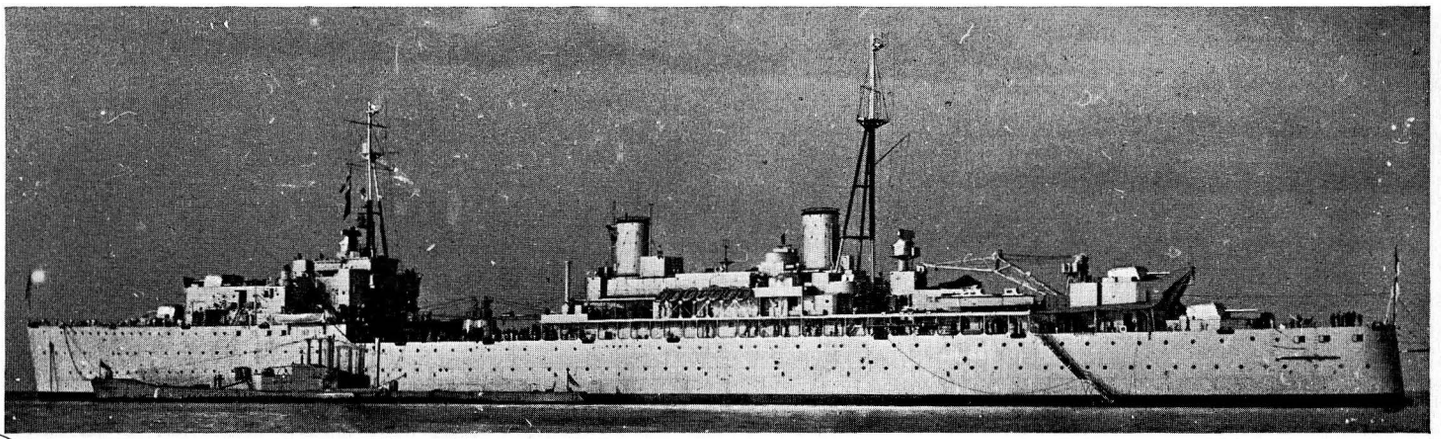
SCOTSMAN (after refit, with new bow) 1960, *Wright & Logan*



SEA SCOUT 1959, *J. W. Kennedy*

Recent Disposals
Sidon, which sank after a torpedo explosion forward in Portland Harbour, 16 June 1955, but was salved a week later, was towed out of Portland Harbour and sunk off Portland on 14 June 1957 in 20 to 25 fathoms to be used by the Navy as a target on the sea bottom. *Selene* was discarded in 1957 and subsequently scrapped. *Sleuth*, *Sturdy* and *Subtle* were scrapped in 1958. *Seneschal* and *Scythian* were scrapped in 1960. *Satyr* (*Saphir*), *Spiteful* (*Sirene*) and *Statesman* (*Sultane*), returned from the French Navy in 1958, were also disposed of by scrapping, and *Scorcher*, *Solent* and *Sentinel* were scheduled for scrapping in 1961. *Sea Devil*, the last operational submarine of this class at sea, was scheduled to be scrapped in Mar. 1962. *Seascout* was scheduled for disposal in mid-Aug. 1962.

SUBMARINE DEPOT SHIPS



ADAMANT

Added 1957, courtesy B. L. Devenish-Meares, Esq.

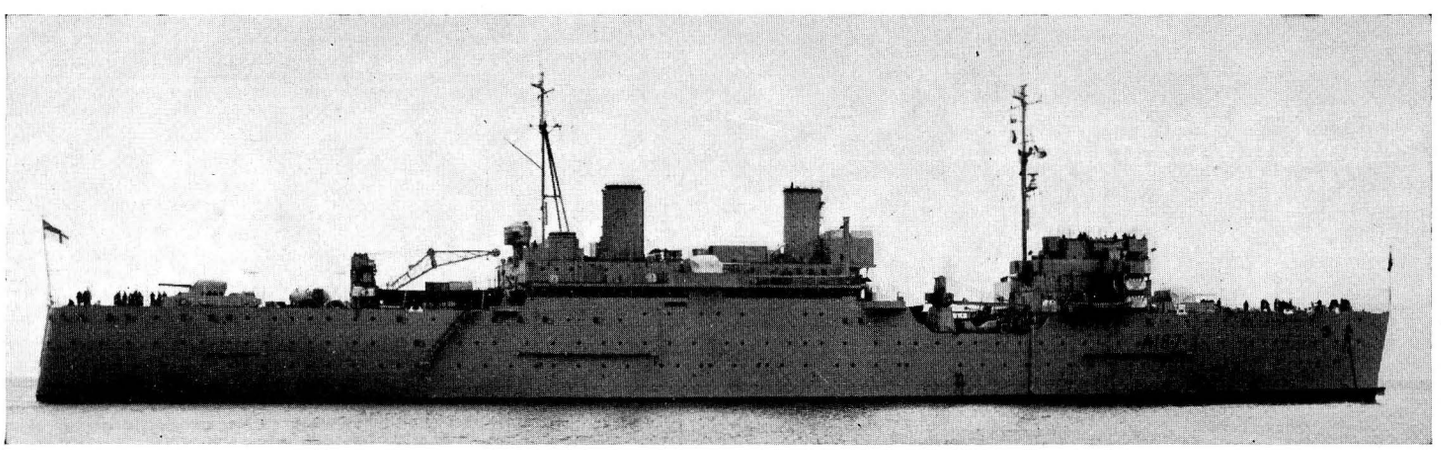
1 " Adamant " Class

ADAMANT

Pennant No.:	A 164
Builders:	Harland & Wolff, Ltd., Belfast
Laid down:	18 May 1939
Launched:	30 Nov. 1940
Completed:	28 Feb. 1942
Displacement:	12,700 tons *standard* (16,500 tons *full load*)
Dimensions:	620 (*pp.*), 646 (*w.l.*), 658 (*o.a.*) × 70¼ × 20 (*mean*), 21¼ (*load*) feet
Guns:	6—4·5 inch (deckhouse replaced " X " mounting), 16—2 pdr., 8—20 mm., 4—3 pdr.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 8,000 = 17 kts.
Boilers:	4 of 3-drum type
Oil fuel:	2,600 tons
Complement:	520 (ship's company, repair staff)

Notes

Submarine Parent Ship. Ordered under 1938 Estimates. Equipment includes a foundry, fitters', patternmakers'' coppersmiths', and shipwrights' shops; light and heavy machine shops; torpedo and electrical shops; and submarine repair facilities of all kinds. Has accommodation for the complements of a squadron of submarines. When originally built she had facilities for nine submarines. Recently, due to increased accommodation required for extra technical staff to maintain modern equipment, she handles six submarines.



FORTH

1960, Giorgio Arra

2 " Maidstone " Class

	FORTH	**MAIDSTONE**
Name:	*Forth:*	*Maidstone:*
Pennant No.:	A 187	A185
Builders:	John Brown & Co. Ltd., Clydebank	John Brown & Co. Ltd., Clydebank
Laid down:	30 June 1937	17 Aug. 1936
Launched:	11 Aug. 1938	21 Oct. 1937
Completed:	14 May 1939	5 May 1938
Reconstructed:	1962-1966	1958-1962

Displacement:	*Forth:* 9,100 tons *standard* (12,700 tons *full load*) *Maidstone:* 9,000 tons *standard* (12,380 tons *full load*) as originally built; 10,000 tons *standard* (14,000 tons *full load*) as converted
Dimensions:	497 (*pp.*), 530¾, *Forth* 531 (*o.a.*) × 73 × 20 (*mean*), 21¼ (*load*) feet
Guns:	*Forth:* 8—4·5 inch, 2 multiple pompoms, 4—3 pdr., 4 smaller *Maidstone:* 5—40 mm. AA. Bofors (see *Gunnery Notes*)
Machinery:	*Forth:* Brown-Curtis geared turbines 2 shafts. S.H.P.: 7,000 = 17 kts. *Maidstone:* Parsons geared turbines. 2 shafts. S.H.P.: 7,000 = 16 kts. (*max.*)
Boilers:	4 Admiralty 3-drum type
Oil fuel:	2,300 tons
Complement:	*Forth:* 502 (including 64 repair staff and 43 as spare submarine crew) *Maidstone* has accommodation for 1,159 (119 officers and 1,040 men) normal and over 1,500 maximum

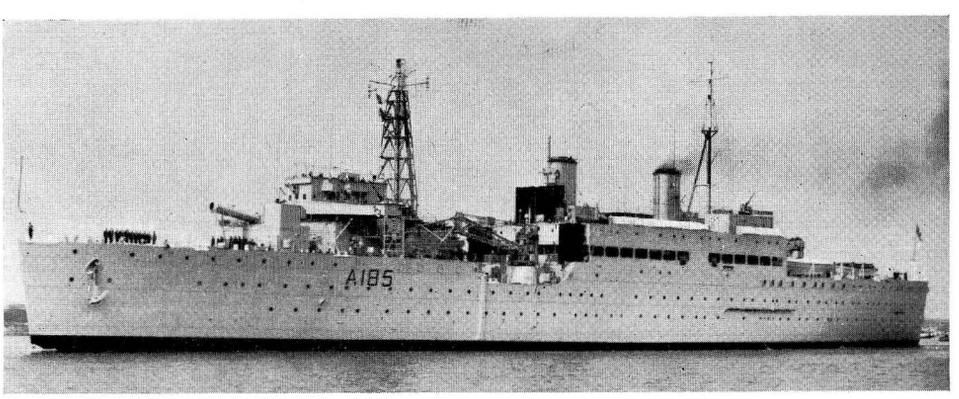
General Notes

Parent Ships for Submarines. *Maidstone* was ordered on 17 Aug. 1936 under the 1935 Estimates. She originally cost £993,000. *Forth* was laid down under the 1937 Estimates. Equipment includes a foundry; coppersmiths', plumbers' and carpenters' shops; heavy and light machine shops; electrical and torpedo repair shops; and plant for charging submarine batteries. Designed for looking after nine operational submarines, and capable of supplying over 140 torpedoes and a similar number of mines when required. Besides large workshops there are repair facilities on board for all material in the attached submarines, and extensive diving and salvage equipment is carried. There are steam laundry, cinema, hospital, chapel, two canteens, bakery, barber shop, fully equipped operating theatre and dental surgery. *Maidstone* was the Flagship of the Commander-in-Chief Home Fleet from 16 Aug. 1956 until 31 Mar. 1958.

Reconstruction Notes

Maidstone was extensively reconstructed in H.M. Dockyard, Portsmouth in 1958-62 with a lattice foremast and additional superstructure amidships.

Forth is to be similarly modernised and converted into a nuclear support ship in H.M. Dockyard, Chatham, beginning in 1962, it is officially stated.



MAIDSTONE (after reconstruction)

1962, Wright & Logan

Nuclear Notes

The conversion and modernisation of *Maidstone* includes refitting for acting as parent ship for the nuclear powered submarine *Dreadnought*.

Gunnery Notes

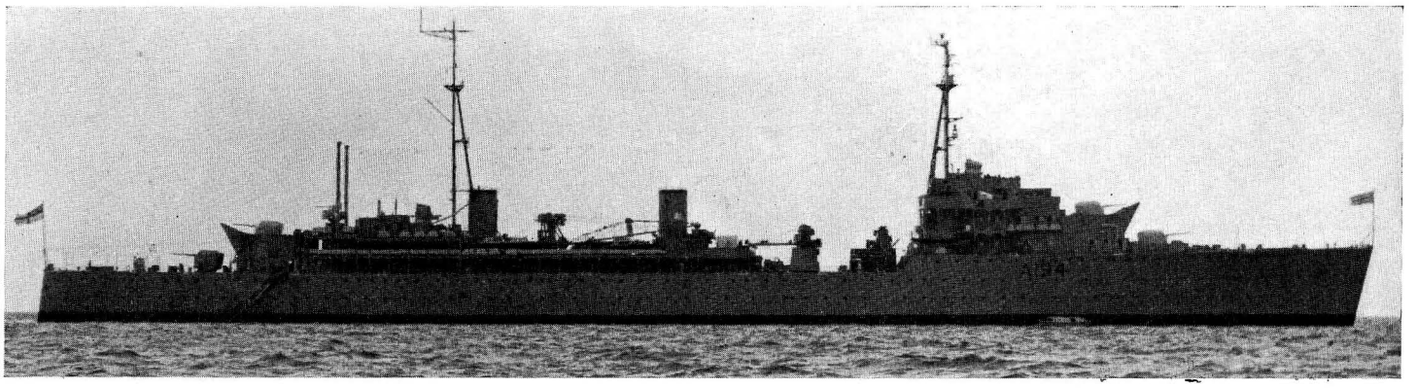
As originally designed both ships mounted eight 4·5 inch guns in four twin housings, one forward, one aft, and one sponsoned on either beam between the funnels.

Maidstone had her 4·5 inch guns removed during her 1958-62 conversion into a nuclear support ship. She also formerly had a light AA. gun in bows, and she carried a 4-inch gun on a submarine pattern mounting, for training purposes only, on the starboard side just aft of the midships 4·5 inch turret.

Photograph Notes

A starboard bow surface view of *Maidstone* before reconstruction appears in the 1960-61 and 1961-62 editions, and a larger port view, corresponding almost exactly with the view of *Maidstone* above, in the 1957-58 to 1959-60 editions, thus affording a ready comparison before and after reconstruction.

DESTROYER DEPOT SHIP



TYNE

Added 1962, courtesy Godfrey H. Walker, Esq.

1 "Tyne" Class

TYNE

Pennant No.: A 194
Builders: Scott's S.B. & Eng. Co. Ltd., Greenock
Laid down: 15 July 1938
Launched: 28 Feb. 1940
Completed: 28 Feb. 1941
Displacement: 11,000 tons *standard* (14,600 tons *full load*)
Dimensions: 585 (*pp.*), 613 (*w.l.*), 621 (*o.a.*) × 66 × 20¾ feet
Guns: 8—4·5 inch, 7—40 mm. AA.
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 7,500=17 kts.
Boilers: 4, of 3-drum type
Oil fuel: 1,400 tons
Complement: 520 (normal) as destroyer depot ship. 820 as flagship. Accommodation allows for 1,000.

Notes

Depot ship for destroyers. Built under 1937 Estimates. Equipment includes two furnaces, each capable of melting 500 lb. of metal at any temperature up to 1,500 degrees centigrade; a foundry and machine shops with milling and grinding machines. Refitted from late 1956 to early 1958 with enclosed lower bridge and improved operations room and internal arrangements, etc., seven 40 mm. guns replacing former smaller anti-aircraft guns. Was Flagship of Home Fleet for Autumn 1954 to August 1956, and again from April 1958 to 1960. Also parent ship of the 2nd Submarine Squadron in 1960, and Flagship of the Flag Officer, Flotillas, Home Fleet, until Apr. 1961, when she became accommodation ship for Fleet Maintenance Units personnel at Portsmouth, from whence she was towed to Devonport on 18 July 1961 and placed in reserve and used as a living ship

Recent Disposal

The destroyer depot ship *Woolwich* was approved for disposal by scrapping in 1962, it is officially stated.

HEAVY REPAIR SHIPS

1 "Colossus" Class (Former *Aircraft Carrier*)

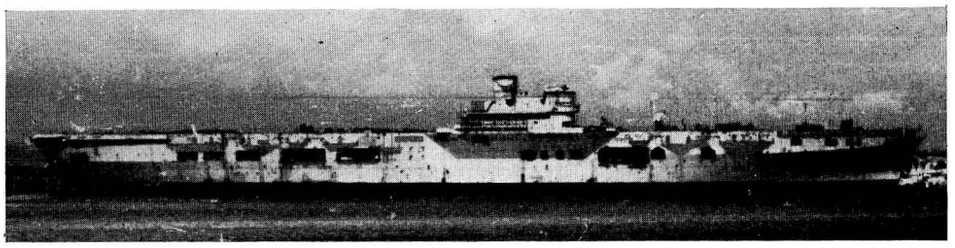
TRIUMPH

Pennant No.: R 16 (as Aircraft Carrier)
Builders: R. & W. Hawthorn, Leslie & Co., Ltd., Hebburn-on-Tyne
Laid down: 27 Jan. 1943
Launched: 2 Oct. 1944
Completed: 9 Apr. 1946
Converted: 1959-64

Displacement: 13,350 tons *standard* (18,300 tons *full load*)
Dimensions: Length: 630 (*pp.*), 695 (*o.a.*), feet. Beam: 80 feet. Width: 112½ (*o.a.*) feet Draught: 21½ (*mean*), 23½ (*max.*) feet. Flight deck: 690 feet long, 80 feet wide, 39 feet above water line. Dimensions of hangar: Length: 445 feet. Width: 52 feet. Clear depth: 17½ feet
Guns: At present unarmed
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 40,000 = 24·25 kts.
Boilers: 4 Admiralty 3-drum type (400 lb. working pressure, 700 degrees maximum superheat)
Oil fuel: 3,000 tons
Radius: 12,000 miles at 14 kts.
Complement: 1,076 (*peace*), 1,300 (*war*)

General Notes

Insulated for tropical service and partially air-conditioned. When she was still an aircraft carrier her accommodation was modified in 1953 to fit her for employment as officer cadets' training ship, but she is being converted into a heavy repair ship under the 1956-57 Estimates, and her sponsons have been removed.



TRIUMPH (under conversion)

Added 1960 (Photo 1959)

Constructional Notes

As an aircraft carrier the flight deck was strengthened to take aircraft of over 8 tons in weight. Sponsons could be dismantled to the extent of 3½ feet on either side if necessary to allow for passage through Panama Canal. Mercantile type hull. Built to Lloyd's specifications up to main deck with the original intention of converting to commercial service after the war. Damage control: No great measure of vertical subdivision on the sandwich system as it was reckoned that it is better for ships to settle evenly in the event of damage and flooding than to foster capsizing.

Engineering Notes

Engines and boilers are arranged *en echelon*, one set of turbines and two boilers being installed side by side in each of the two main propelling machinery spaces, on the unit system, so that the starboard propellor shaft is longer than the port shaft. The maximum designed speed was 25 knots, at 225 revolutions per minute. The economical speed is 15 knots at 120 revolutions per minute.

Appearance Notes

Distinguished from aircraft carriers by generally lighter appearance and thin funnel and distinctive shape of ship's side forward.

Class Notes

Of her original sister aircraft carriers, the *Venerable* (renamed *Karel Doorman*) was sold to Netherlands in 1948, *Colossus* (renamed *Arromanches*) was sold to France in 1951; and two were completed as maintenance aircraft carriers *Perseus* (scrapped in 1958) and *Pioneer* (scrapped in 1954), *Vengeance* was lent to the Royal Australian Navy early in 1953, but was returned to the Royal Navy in August 1955, and sold to the Brazilian Government in 1956 (announced by Admiralty 14 Dec.); she has been modernised and was commissioned in 1961 under the name *Minas Gerais*. *Warrior* was sold to the Argentine Government in July 1958 and she was commissioned under the name *Independencia* in Jan. 1959.

Photograph Notes

A photograph of *Triumph* before conversion appears in the 1958-59 and 1959-60 editions.

Recent Disposals

Of her sister ships *Glory* was broken up in 1961, and *Ocean* and *Theseus* are surplus to fleet requirements, having been laid up or earmarked for sale or breaking up.

Half-sister *Perseus*, also *Unicorn*, were scrapped in 1958-59. (*Unicorn* arrived at Dalmuir on 15 June, 1959).

1 "A" Class (Ex-Liner)

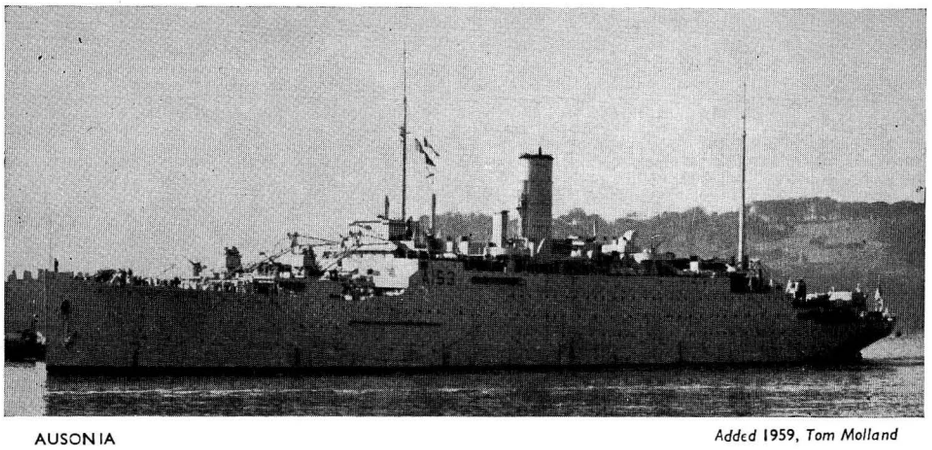
AUSONIA

Pennat No.: A 153
Builders: Armstrong Whitworth & Co. Ltd. Newcastle-on-Tyne
Launched: 22 Mar. 1921
Completed: 22 June 1922 (maiden voyage)

Displacement: 20,760 tons *full load*
Measurement: 14,000 tons *gross*, 8,500 tons *net*, 12,000 tons *deadweight*
Dimensions: 519¾ (*pp.*), 538 (*o.a.*) × 65¼ × 31½ (*max.*) feet
Guns: 10—40 mm. AA. (single)
Machinery: Geared turbines. 2 shafts. S.H.P.: 8,500=15 kts.
Oil fuel: 2,287 tons
Complement: 600

General Notes

Former Cunard transatlantic liner which served on the Canadian run until the second World War. Requisitioned by the Admiralty, she was first commissioned under the White Ensign at Newcastle-on-Tyne on 7 Nov. 1939, after conversion to an Armed Merchant Cruiser, and in this capacity she was employed in the Atlantic until 1941. In May 1942 she was converted into a Heavy Repair Ship. In 1944 the Admiralty acquired her as a permanent unit of the Royal Navy. After the war she was placed in reserve and was subsequently laid up in Millwall docks (W. Badger & Co.) in state of preservation, underwent a refit at Devonport in Oct. 1957-Sep. 1958, and relieved the *Ranpura* as base heavy repair ship for the Mediterranean at Malta in 1959. Of *Ausonia*'s sister ships, *Alaunia*, training ship for engine-room ratings at Devonport until 1956, was scrapped in Sep. 1957; and *Artifex* (ex-*Aurania*), training ship for artificer apprentices at H.M.S. *Caledonia* establishment at Rosyth until 1959, and subsequently used as a living ship, was approved for disposal in 1960.



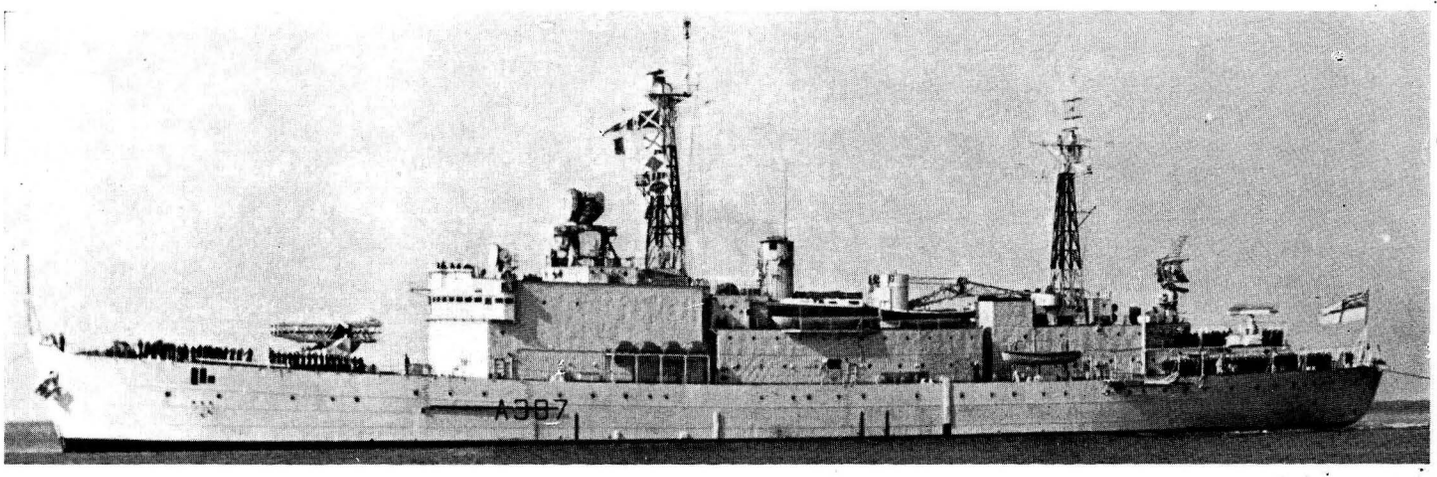
AUSONIA

Added 1959, Tom Molland

Recent Disposals

The heavy repair ship *Ranpura*, former P. & O. liner, was approved to be scrapped in 1960, and was sold to Italian interests in Apr. 1961 for breaking up.

MAINTENANCE SHIPS



GIRDLE NESS

1961, *Giorgio Arra*

1 Converted Maintenance Type

GIRDLE NESS

Pennant No.:	A 387
Builders:	Burrard Dry Dock Co. Ltd., North Vancouver, B.C.
Laid down:	7 Dec. 1944
Launched:	29 Mar. 1945
Completed:	5 Sep. 1945
Converted:	24 July 1956 (see Notes)
Displacement:	8,580 tons *standard* (10,200 tons *full load*) as originally built, 10,000 tons (*standard* (11,620 tons *full load*) as converted.
Dimensions:	416 (*pp.*), 441 (*o.a.*) × 57 × 21 feet
Guided missiles:	1 triple launcher for "Seaslug" (as trials ship)
Machinery:	Triple expansion. 1 shaft. I.H.P.: 2,500 10 kts. (*max.*)
Complement:	400 officers and ratings, normal, see *General Notes*

General Notes

Former Landing Craft Maintenance Ship converted to a guided missiles trials ship in H.M. Dockyard, Devonport, Oct. 1953—July 1956. Commissioned for service 24 July. Began tests 1 Sep. 1956. Accommodation for 616 (for trials). In Dec. 1961 the complement was 35 officers, 21 members of the Royal Navy Scientific Service and 380 ratings. For full particulars of guided missile installation see 1961-62 edition.

Paid off as guided missiles trials ship on 5 Dec 1961. Reclassified as an accommodation ship in 1962.

2 "Point" Class

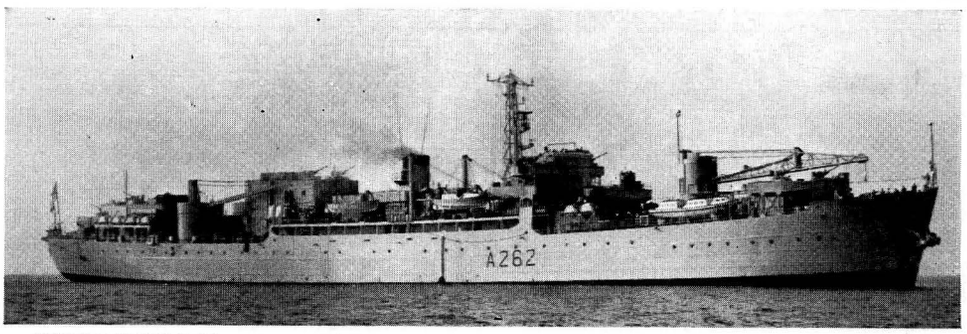
DODMAN POINT **HARTLAND POINT**

Name:	*Dodman Point*	*Hartland Point*
Pennant No.:	A 219	A 262
Builders:	Burrard Dry Dock Co. Ltd., North Vancouver, B.C.	Burrard Dry Dock Co. Ltd., North Vancouver, B.C.
Ordered:	1 May 1944	1 May 1944
Laid down:	6 Jan. 1945	18 July 1944
Launched:	14 Apr. 1945	4 Nov. 1944
Completed:	5 Oct. 1945	11 July 1945

Displacement:	8,580 tons *standard* (10,200 tons *full load*)
Dimensions:	416 (*pp.*), 441 (*o.a.*) × 57 × 21 feet
Guns:	11—40 mm. Bofors AA. in *Hartland Point*. (16—20 mm. AA. were removed from *Dodman Point*)
Machinery:	Triple expansion. I.H.P. : 2.500 = 11 kts.
Oil fuel:	1,000 tons

Notes

Former Landing Ship Maintenance Ships. In 1959-60 *Hartland Point* was very extensively refitted externally and internally and modernised as an Escort Maintenance Ship, with lattice foremast, modified bridge, novel short funnel, additional deckhouses, modern cranes, and new armament. New messing arrangements and air conditioning were installed. She became base ship, Hong Kong in 1960; she is now of fleet support status in the Far East. *Dodman Point* (see photograph in the 1959-60 edition) is for disposal.



HARTLAND POINT (after reconstruction)

1960, *Wright & Logan*

2 "Mull" Class

MULL OF GALLOWAY (ex-*Kinnard Head*)
MULL OF KINTYRE

Name:	*Mull of Galloway*	*Mull of Kintyre*
Pennant No.:	A 225	A 226
Builders:	North Vancouver Ship Repairs Ltd.	North Vancouver Ship Repairs Ltd.
Ordered:	1 May 1944	1 May 1944
Laid down:	19 June 1944	21 Dec. 1944
Launched:	26 Oct. 1944	5 Apr. 1945
Completed:	15 May 1945	5 Nov. 1945

Displacement:	8,500 tons *standard* (10,200 tons *full load*)
Dimensions:	416 (*pp.*), 441 (*o.a.*) × 57 × 21 feet
Guns:	*Mull of Galloway*: 9—40 mm. AA. *Mull of Kintyre*: 11—40 mm. AA.
Machinery:	Triple expansion. I.H.P.: 2,500 = 11 kts.
Oil fuel:	1,000 tons

Notes

Mull of Galloway (see photographs in the 1956-57 to 1961-62 editions) was an Inshore Minesweeper Flotilla Headquarters and Base Ship, but she was refitted in 1960 and since May 1960 has been employed with the cruiser *Sheffield* as joint Reserve Fleet Headquarters Ships at Portsmouth. *Mull of Kintyre* was an Armament Maintenance Ship, then a Repair and Accommodation Ship was converted into a Minesweeper Maintenance Ship on similar lines to *Hartland Point* (conversion completed in Aug. 1961). Based at Singapore in Oct. 1961.



MULL OF KINTYRE (after conversion)

1962, *Official*

3 "Head" Class

BERRY HEAD **RAME HEAD**
DUNCANSBY HEAD

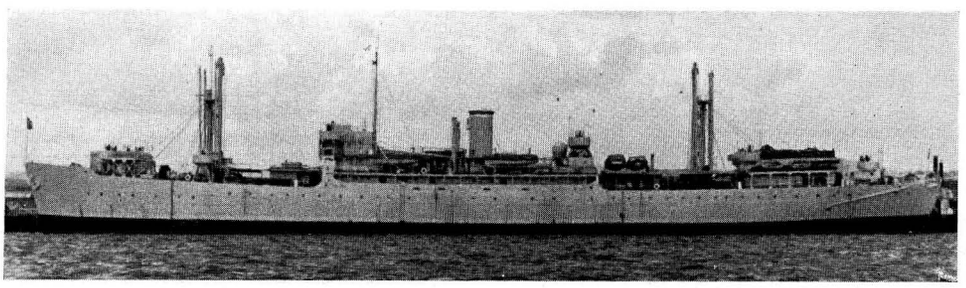
Displacement:	9,000 tons *standard* (11,270 tons *full load*)
Dimensions:	416 (*pp.*), 441½ × 57 5/12 × 20 3/4 (*mean*), 22½ (*max.*) feet
Guns:	16—20 mm. AA. (removed from *Rame Head*)
Machinery:	Triple expansion. I.H.P.: 2,500 = 11 kts.
Boilers:	2 Foster-Wheeler
Oil fuel:	1,600 tons

General Notes

Escort Maintenance Ships. All three ships were ordered on 1 May 1944. *Rame Head* was accepted on 18 Aug. 1945. *Berry Head* and *Duncansby Head* were accepted from the builders on 7 June 1945 and 9 Aug. 1945, respectively. *Berry Head* (see photograph in the 1953-54 to 1961-62 editions) and *Rame Head* were refitted and modernised in 1960-62 on similar lines to *Hartland Point*. *Duncansby Head* has been employed as Headquarters Ship of the Reserve Fleet at Rosyth since June 1960, but was for disposal in 1962.

Class Notes

Beachy Head and *Flamborough Head* of this class belong to the Royal Canadian Navy, having been acquired in 1952 and 1951, respectively, and renamed *Cape Scott* and *Cape Breton*.



DUNCANSBY HEAD

1962, *Giorgio Arra*

Name	*Pennant No.*	*Builders*	*Laid down*	*Launched*	*Completed*
Berry Head	A 191	Burrard Dry Dock Co.	15 June 1944	21 Oct. 1944	30 May 1945
Duncansby Head	A 158	Burrard Dry Dock Co.	29 July 1944	17 Nov. 1944	8 Aug. 1945
Rame Head	A 134	N.V. Ship Repairs Ltd.	12 July 1944	22 Nov. 1944	18 Aug. 1945

Recent Disposals

Of the two "Ness" class landing craft maintenance ships, the *Girdle Ness* was converted into a guided weapons trials ship (see above, and her original sister ship *Buchan Ness* was scrapped in 1960.

SURVEY SHIPS

1 New Construction

Notes
A new survey ship is being ordered to replace the old survey ship *Shackleton* (see below). John I. Thornycroft & Co. Ltd., Woolston, Southampton received the design contract.

1 Helicopter Type

VIDAL

Pennant No.:	A 200
Builders:	H.M. Dockyard, Chatham
Laid down:	5 July 1950
Launched:	31 July 1951
Completed:	29 Mar. 1954
Displacement:	1,940 tons *standard* (2,200 tons *full load*) officially revised figures
Dimensions:	297 (*pp.*), 315 (*o.a.*) × 40 × 11 (*forward*), 13 (*aft*) feet
Armament:	4—3 pdr. saluting guns and depth charges
Aircraft:	1 helicopter
Machinery:	4 diesels. 2 shafts. B.H.P.: 8,300 = 15 kts.
Complement:	164 (14 officers, 150 ratings)

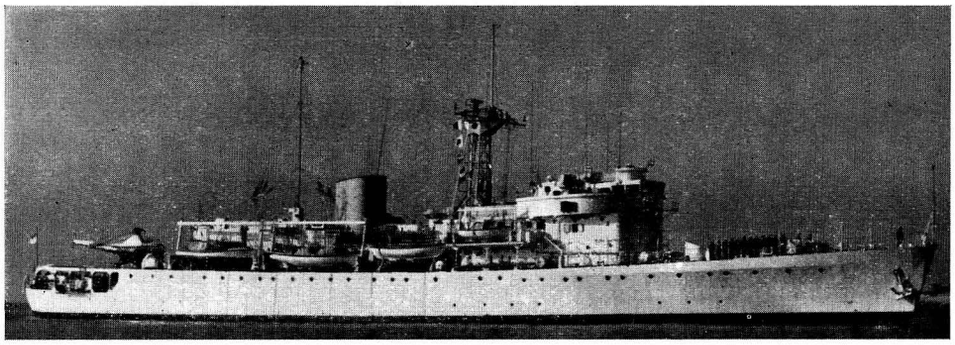
General Notes
Design figures for displacement were 1,565 tons standard and 1,885 tons load, but in fact she has turned out heavier. Designed by the Admiralty from the start for hydrographic surveying and chart production. First surveying ship to be equipped with helicopter flight deck and hangar, designed to enable a helicopter to land on and fly for air surveying photography and transport of personnel to shore observation stations. Air conditioning plant is installed to meet equatorial and polar climatic conditions. Ship carries three surveying motor launches equipped with echo sounding apparatus. First British naval vessel to be built equipped from the beginning for cafeteria messing. Cost £1,345,000. Refitted with enclosed bridge in 1961, but bridge wings left open.
Completed a 3-months refit at H.M. Dockyard, Chatham in Aug. 1962.

Engineering Notes
The main propelling machinery was designed in H.M. Dockyard, Chatham. The four diesel engines drive two shafts through reverse and reduction gear boxes.

Electrical Notes
The latest electronic aids to surveying and navigators are incorporated. Electrical power is provided from 360 kw. 220 volt direct current diesel generating sets.

Helicopter Notes
The after end of the forecastle deck extension is a landing apron for the helicopter, which is housed in the after deck house hangar on the same level.

Appearance Notes
The funnel and the fore part of the bridge are pear-shaped in plan.



VIDAL — 1962, *Wright & Logan*

4 " Cook " Class
(ex-*Frigates*)

COOK (ex-*Pegwell Bay*, ex-*Loch Mochrum*)
DALRYMPLE (ex-*Luce Bay*, ex-*Loch Glass*)
DAMPIER (ex-*Herne Bay*, ex-*Loch Eil*)
OWEN (ex-*Thurso Bay*, ex-*Loch Muick*)

Displacement:	1,600 tons *standard* (2,230 tons *full load*)
Dimensions:	286 (*pp.*), 307 (*o.a.*) × 38½ × 12¼ feet (14¼ feet *max.*)
Armament:	4—3 pdrs., 2 D.C.T.
Machinery:	2, 4-cylinder triple expansion. 2 shafts. I.H.P.: 5,500 = 19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	10,000 miles at 10 kts.
Complement:	149 (14 officers, 135 ratings)

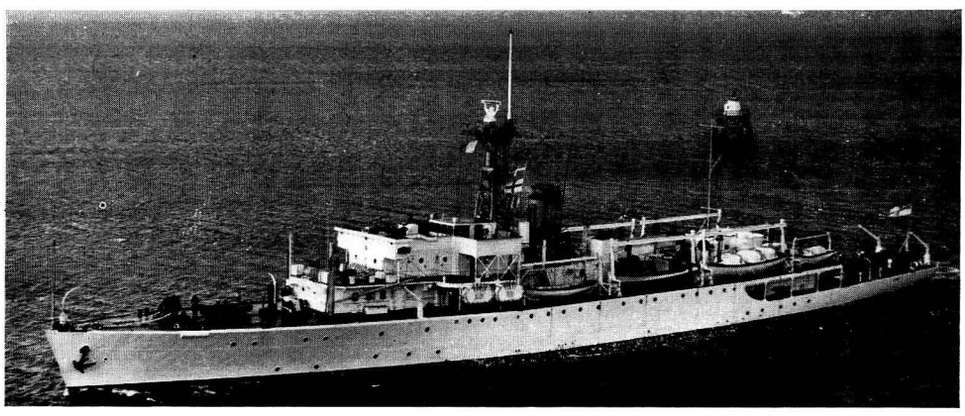
General Notes
All modified frigates of the " Bay " Class. *Cook* and *Dalrymple* were both completed at H.M. Dockyard, Devonport; *Dampier* and *Owen* were both completed at H.M. Dockyard, Chatham. Equipped with radar, asdic and other modern equipment. *Cook* now has a small enclosed upper bridge. *Dampier* was also refitted with an enclosed bridge in 1961.

Electrical Notes
Electrical power in these ships, at 220 volts D.C., is derived from two 120 kw. steam-turbine-driven and two 150 kw. diesel-driven generators.

Engineering Notes
The main machinery of *Cook* and *Dalrymple* was manufactured by George Clark Ltd., Sunderland.

Photograph Notes
Photographs of *Dalrymple* in the 1958-59 and 1959-60 editions, and of *Owen* in the 1957-58 and earlier editions.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
A 307	*Cook*	Wm. Pickersgill & Sons, Ltd., Sunderland	30 Nov. 1944	24 Sep. 1945	20 July 1958
A 302	*Dalrymple*	Wm. Pickersgill & Sons, Ltd., Sunderland	29 Apr. 1944	12 Apr. 1945	10 Feb. 1949
A 303	*Dampier*	Smith's Dock Co. Ltd., South Bank-on-Tees	7 Aug. 1944	15 May 1945	6 June 1949
A 311	*Owen*	Hall, Russell & Co. Ltd., Aberdeen	30 Sep. 1944	19 Oct. 1945	23 Sep. 1949



COOK — *Added* 1960, *Official*

2 " Scott " Class
(ex-*Fleet Minesweepers*)

SCOTT **SHACKLETON** (ex-*Sharpshooter*)

Name:	*Scott*	*Shackleton*
Pennant No.:	A 308	A 310
Builders:	Caledon Shipbuilding & Engineering Co. Ltd., Dundee	H.M. Dockyard, Devonport
Laid down:	1937	1936
Launched:	23 Aug. 1938	10 Dec. 1936
Completed:	31 July 1939	17 Dec. 1937

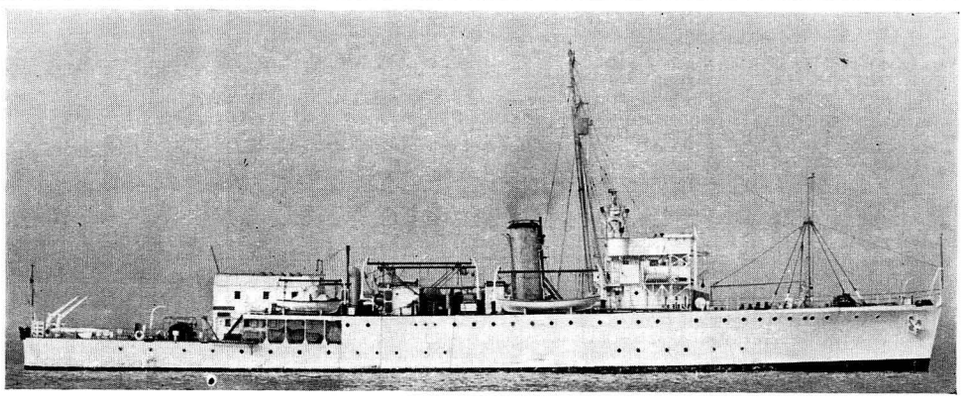
Displacement:	830 tons *standard* (1,260 tons *full* load)
Dimensions:	230 (*pp.*), 245 (*o.a.*) × 33½ × 7 (*mean*) 10 (*max.*) feet
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 1,750 = 17 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	220 tons
Radius:	4,000 miles at 10 kts.
Complement:	84

General Notes
Both begun as fleet minesweepers under 1936 and 1937 Estimates. *Scott* differs from *Shackleton*, as apparent from photos. Mainmast removed from *Shackleton* which was renamed in 1953. Both ships may be disposed of in the near future (see *New Construction*).

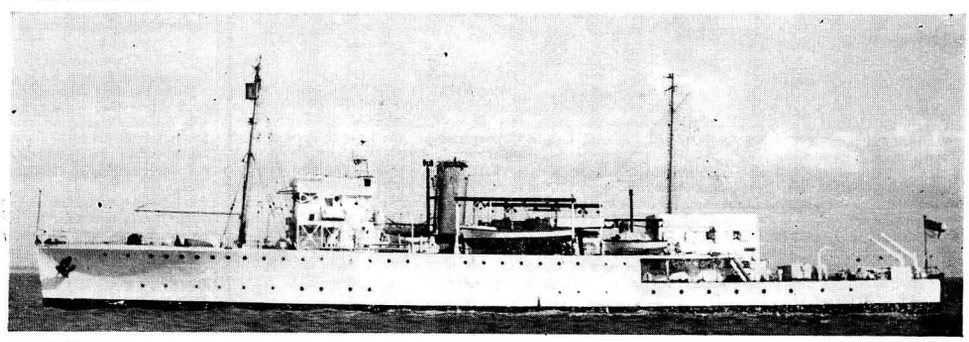
Class Notes
Sister ship *Seagull* is now hulk drillship for Forth Division R.N.V.R. at Leith.

Recent Disposals
Seagull was stricken from the active list 1955, see above. Sister ship *Franklin* was handed over to the British Iron & Steel for scrapping in 1956.

New Construction
Shackleton is to be replaced by a specially built vessel (see top of page).



SHACKLETON — 1960, *Official*



SCOTT — 1960, *Official*

COASTAL MINESWEEPERS



WOLVERTON (frigate bridge and tripod mast) 1961, *Official*



MONKTON (open bridge and lattice mast) 1960. *Keith Long*

97 "Ton" Class
M 1101 and M 1200 Series

ALDINGTON (ex-*Pittington*)
ALFRISTON (ex-*Warsash*, ex-*Alfriston*)
ALVERTON (ex-*Thames*, ex-*Alverton*)
AMERTON (ex-*Mersey*, ex-*Amerton*)
APPLETON
ASHTON
BADMINTON (ex-*Ilston*)
BEACHAMPTON
BELTON
BEVINGTON
BILDESTON
BLAXTON
BOSSINGTON (ex-*Embleton*)
BRINTON
BRONINGTON (ex-*Humber*, ex-*Bronington*)
BURNASTON
CALTON
CARHAMPTON
CAUNTON
CHILCOMPTON
CHAWTON
CLARBESTON
CLYDE (ex-*Crichton*)
CONISTON
CROFTON
CURZON (ex-*Bickington*)
CUXTON
DALSWINTON
DARTINGTON
DILSTON (ex-*Pilston*)
DUFTON
EDDERTON
ESSINGTON
FENTON
FISKERTON
FITTLETON
FLOCKTON
FLORISTON
GAVINGTON
GLASSERTON
HEXTON
HICKLETON
HIGHBURTON
HOUGHTON
HUBBERSTON
ILMINGTON
INVERMORISTON
IVESTON
KEDLESTON
KELLINGTON
KEMERTON
KILDARTON (ex-*Liston*)
KILLIECRANKIE (ex-*Derriton*)
KILMOREY (ex-*Kirkliston*)
LALESTON
LANTON
LETTERSTON
LEVERTON
LEWISTON
LULLINGTON
MADDISTON
MAXTON
MARYTON
MERSEY (ex-*Pollington*)
MONKTON (ex-*Kelton*)
MONTROSE (ex-*Nurton*)
NORTHUMBRIA (ex-*Quainton*)
OULSTON
PENSTON
PICTON
PUNCHESTON
RENNINGTON
REPTON (ex-*Ossington*)
RODINGTON
ST. DAVID (ex-*Brereton*)
SANTON
SEFTON
SHAVINGTON
SHERATON
SHOULTON
SOBERTON
STUBBINGTON
SULLINGTON
TARLTON
THAMES (ex-*Buttington* ex-*Venturer*, ex-*Buttington*)
THANKERTON
UPTON
VENTURER (ex-*Hodgeston*, ex-*Northumbria*)
WALKERTON
WARSASH (ex-*Boulston*)
WASPERTON
WISTON
WILKIESTON
WOLVERTON
WOOLASTON
WOTTON
YARNTON

Displacement: 360 tons *standard* (425 tons *full load*)
Dimensions: 140 (*pp.*), 153 (*o.a.*) × 28¾ × 8¼ feet
Guns: 1—40 mm. Bofors AA. forward (removed in some ships), 2—20 mm. AA. aft
Machinery: Diesels. 2 shafts. B.H.P.: 2,500 (Mirrlees), 3,000 (Deltics) = 15 kts. (*max.*). See *Engineering Notes*
Oil fuel: 45 tons
Complement: 27 in peacetime (39 war). *Shoulton:* 5 officers, 31 ratings

General Notes

These were a new type of vessel with a double mahogany hull and constructed throughout of aluminium alloy and other materials with the lowest possible magnetic attraction to attain the greatest possible safety factor when sweeping for magnetic mines. John I. Thornycroft & Co Ltd., Woolston, Southampton, were selected by the Admiralty to act as the "parent" firm for the group which built this class of minesweepers of similar design capable of operating sweeps against both contact and influence type mines and dealing with mines operated magnetically and acoustically. *Coniston*, the first vessel of the "Ton" class to be completed, was accepted into H.M. service in Feb. 1953.

Nomenclature Notes

These ships were finally named after villages. *Alfriston* was renamed *Warsash* in 1954 and allocated to the Solent Division R.N.R. and *Alverton* was renamed *Thames* on 8 June, 1954, and allocated to the London Division R.N.R. *Bickington* was renamed *Curzon* on 30 Oct. 1954, and allocated to Sussex Division R.N.R. *Hodgeston* was renamed *Venturer* in 1961 and allocated to the Severn Division R N.R. *Buttington* was renamed *Thames* on 17 Feb. 1962 and allocated to the London Division R.N.R.

Engineering Notes

These ships have high speed diesels, standardised to simplify the maintenance problem, and twin screws. The earlier vessels have main machinery manufactured by Mirrlees, Bickerton & Day Ltd., Stockport, but most of the later units have Deltic light weight diesels manufactured by D. Napier & Sons Ltd., Acton, London. *Highburton*, the first ship of this type to be powered by Napier Deltic lightweight diesel machinery was accepted on 21 Apr. 1955. Several ships, including *Alfriston*, *Amerton*, *Buttington* and *Hodgeston* (renamed *Venturer*) recently have undergone conversion from Mirrlees to Deltic diesel machinery. The generators for electrical power are in separate engine rooms.

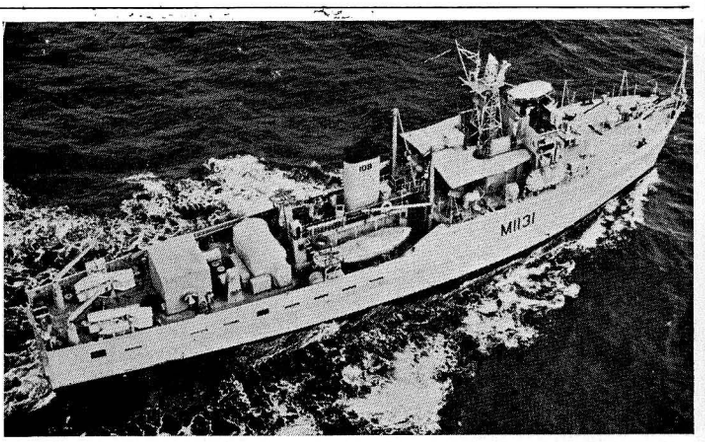
Appearance Notes

The last score or so of this class, including *Ashton*, *Chawton*, *Dilston*, *Dumbleton*, *Fiskerton*, *Houghton*, *Lewiston*, *Mersey* (ex-*Pollington*), *Montrose* (ex-*Nurton*), *Puncheston*, *Quainton*, *Repton*, *Soberton*, *Stubbington*, *Walkerton*, *Wilkieston*, and *Wiston* are fitted with a new type of enclosed or frigate bridge and tripod mast. *Appleton Shoulton* bridge only.

Minehunting Notes

Shoulton was fitted with unique mine-hunting equipment, an all-British Asdic development which enables her to locate and classify any mine-like object on the sea bed with accuracy and range previously impossible.

Coastal Minesweepers—*continued*



HICKLETON (covered bridge and lattice mast) 1960, *Official*

"Ton" Class—*continued*

Stabiliser Notes

Coniston has been fitted with Vosper stabilisers, and the whole class are being or will be fitted with similar Vosper roll damping gear.

Experimental Notes

It is reported that *Stubbington* has a fibre glass bottom. *Fittleton* is being remodelled. *Sheraton* is being fitted with a new type of funnel.

Fishery Protection Notes

Of this class *Belton*, *Soberton*, *Wasperton* and *Wootton* constitute a division of the Fishery Protection Squadron.

Transfer Notes

Dunkerton and *Hazleton* were transferred to the South African Navy in 1955 and renamed *Pretoria* and *Kaapstad*, respectively. *Durweston*, *Overton*, *Whitton* and *Wennington* were transferred to the Indian Navy in 1956, and renamed *Kakinada*, *Karwar*, *Cannamore* and *Cuddalore*, respectively.

Castleton, *Chilton*, *Dumbleton*, *Oakington*, *Packington* and *Stratton* were transferred to the South African Navy in 1958-59 and renamed *Johannesburg*, *East London*, *Port Elizabeth*, *Mosselbaai*, *Walvisbaai* and *Kimberley*, respectively, with *Durban* and *Windhoek*.

Darlaston was sold to the Federation of Malaya in 1960, and renamed *Mahamiru*.

Alcaston, *Chediston*, *Jackton*, *Singleton*, *Somerley* and *Swanston* were sold to the Royal Australian Navy (transferred in 1962), and renamed *Snipe*, *Curlew*, *Teal*, *Ibis*, *Hawk*, and *Gull*, respectively.

R.N.R. Notes

Eleven "Ton" class coastal minesweepers have been renamed and are attached to Royal Naval Reserve Division Headquarters as follows (Division under *Name*):—

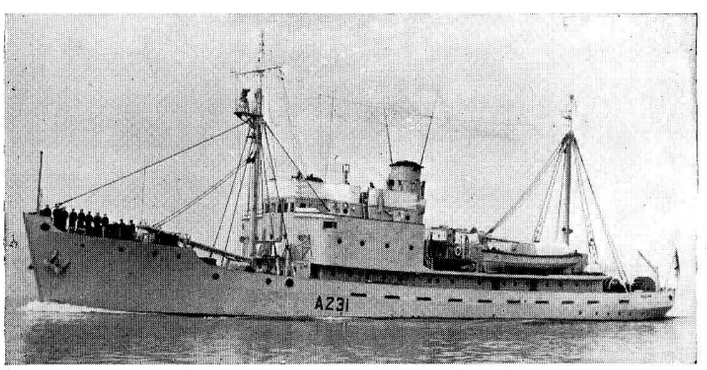
Thames	*Curzon*	*Warsash*	*Venturer*	*St. David*	*Mersey*
London	Sussex	Solent	Severn	S. Wales	Mersey
Kilmorey	*Clyde*	*Montrose*	*Killiecrankie*	*Northumbria*	
Ulster	Clyde	Tay	Forth	Tyne	

(The Humber Division was suppressed in 1958 and H.M.S. *Humber* reverted to her original name *Bronington*.)

Photograph Notes

Larger photographs of *Appleton*, *Bossington* (aerial views), *Houghton* and *Repton* appear in the 1959-60 edition. A photograph of *Wilkieston* appears in the 1960-61 edition.

MINE COUNTERMEASURE SUPPORT AND DIVING TRIALS SHIP



RECLAIM 1960, *Wright & Logan*

Modified Ocean Salvage Vessel

RECLAIM (ex-*Salverdant*)
Displacement: 1,200 tons *light* (1,800 tons *full load*)
Dimensions: 200 (*pp.*) 217¾ (*o.a.*) × 38 × 15½ (*max.*) feet
Machinery: Triple expansion by Aitchison Blair Ltd. 2 shafts. I.H.P. 1,500 = 12 kts.
Oil fuel: 310 tons
Radius: 3,000 miles
Complement: 84

General Notes

Built by Wm. Simons & Co. Ltd., Renfrew. Engined by Aitchison Blair Ltd. Laid down on 9 Apr. 1946. Launched on 12 Mar. 1948. Completed in Oct. 1948. Her construction was broadly based on the design of a "King Salvor" class Admiralty ocean salvage vessel She was the first deep diving and submarine rescue vessel to be built as such for the Royal Navy. The ship is fitted with asdic gear, echo-sounding apparatus for the detection of sunken wrecks, and radar, and is also equipped for submarine rescue work. Pennant No.: A.231.

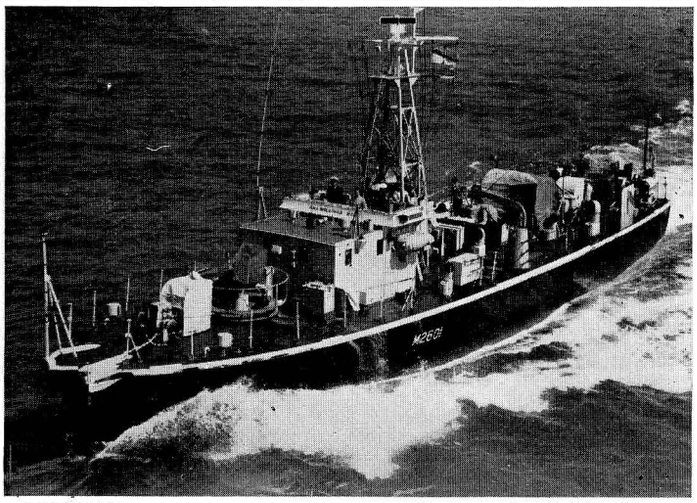
Reclassification Notes

Formerly a tender to H.M.S. *Vernon* shore establishment at Portsmouth for deep diving experiments, and subsequently a deep diving vessel in the Portsmouth Squadron. Reclassified as a Mine Countermeasure Support and Diving Trials Ship in 1960, and attached to H.M.S. *Lochinvar*, the minesweeping base at Port Edgar. Carried out deep experiments in the Canary Islands in Jan. to Mar. 1961.

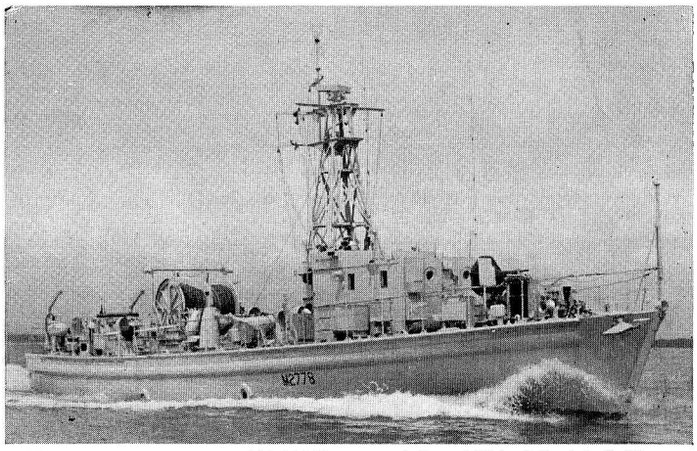
Recent Disposals of Ocean Minesweepers

The nine surviving ocean minesweepers of the "Algerine" Class, once numbering 100 units, were scrapped or scheduled for disposal during 1962. See full particulars and earlier disposals of this class in the 1961-62 and earlier editions.

INSHORE MINESWEEPERS



INGLESHAM 1960, *courtesy John G. Callis. Esq.*



WOLDINGHAM *Added 1960, courtesy J. Samuel White & Co. Ltd., Builders*

66 " Ham " Class.
M 2601 and M 2701 Series

ABBOTSHAM	**FORDHAM** (ex-*Pavenham*)	**PORTISHAM**
ARLINGHAM	**FRITHAM**	**POWDERHAM**
BASSINGHAM	**GEORGEHAM**	**PUTTENHAM**
BIRDHAM	**GLENTHAM**	**RACKHAM**
BLUNHAM	**GREETHAM**	**RAMPISHAM** (ex-*Squirrel*, ex-*Rampisham*)
BODENHAM	**HALSHAM**	**REEDHAM**
BOREHAM	**HARPHAM**	**SANDRINGHAM**
BOTTISHAM	**HAVERSHAM**	**SAXLINGHAM**
BRIGHAM	**HOVINGHAM**	**SHIPHAM**
BUCKLESHAM	**INGLESHAM**	**SHRIVENHAM**
CHELSHAM	**ISIS** (ex-*Pulham*)	**SIDLESHAM**
CHILLINGHAM	**LASHAM**	**THAKEHAM**
COBHAM	**LEDSHAM**	**THATCHAM**
CRANHAM	**LUDHAM**	**THORNHAM**
DAMERHAM	**MICKLEHAM**	**TONGHAM**
DARSHAM	**NEASHAM**	**TRESHAM**
DAVENHAM	**NETTLEHAM**	**WARMINGHAM**
DITTISHAM	**OCKHAM**	**WINTRINGHAM**
DOWNHAM	**ODIHAM**	**WOLDINGHAM**
ELSENHAM	**PAGHAM**	**WRENTHAM**
EVERINGHAM	**POLSHAM**	**YAXHAM**
FELMERSHAM	**POPHAM**	
FLINTHAM		

Displacement:	120 tons *standard* (159 tons *full load*)
Dimensions:	2601 Series: 100 (*pp.*), 106$\frac{3}{16}$ (*o.a.*) × 21$\frac{1}{2}$ × 5$\frac{1}{2}$ feet 2701 Series: 100 (*pp.*) 106$\frac{3}{4}$ (*o.a.*) × 21$\frac{3}{8}$ × 5$\frac{3}{8}$ feet 2777 *et seq.*: 100 (*pp.*), 107$\frac{5}{16}$ (*o.a.*) × 21$\frac{11}{12}$ × 5$\frac{3}{4}$ feet
Guns:	1—40 mm. Bofors AA. or 1—20 mm. Oerlikon AA. forward (see *Gunnery Notes*)
Machinery:	2 Paxman diesels. B.H.P.: 1,100=14 kts. (9 kts. sweeping) see *Engineering Notes*
Oil fuel:	15 tons
Complement:	15 in peacetime (22 war)

General Notes

Designed to operate in shallow waters, such as rivers and estuaries. They are an entirely new type of vessel and they embody novel features resulting from lessons learned during the war and in the course of subsequent developments. They were finally named after villages. The first inshore minesweeper, the *Inglesham*, was launched by J. Samuel White & Co. Ltd., Cowes, on 23 Apr. 1952. The 2701 series are of wooden construction, whereas the 2601 series are of composite construction. All the M 2701 series have a rubbing strake unlike the M 2601 and M 2001 series.

Gunnery Notes

Most of the M 2601 series have had the 1—40 mm. gun replaced by 1—20 mm. All the M 2701 series have 1—20 mm.

Engineering Notes

The main machinery of most of these vessels was manufactured by Davey Paxman & Co. Ltd., Colchester, or by Ruston & Hornsby Ltd., Lincoln, Fodens Ltd., Sandbach, Cheshire, or Ransomes, Sims and Jefferies Ltd., Ipswich, under licence from Davey Paxman.

Appearance Notes

Most inshore minesweepers in commission now have black hulls.

Experimental Notes

Reedham, launched on 19 Aug. 1958 at Anglesey is fitted with Denny-Brown/Saunders-Roe small ship stabilising fins.

R.N.V.R. Notes

Pulham was allocated to the London Division R N.R. in 1956 and renamed *Isis*.

Fishery Protection Notes

Rampisham was renamed *Squirrel* in 1958 on allocation to fishery protection duties, but reverted to the original name *Squirrel* in 1960.

Inshore Minesweepers—*continued*

" Ham " Class—*continued*

Transfer Notes

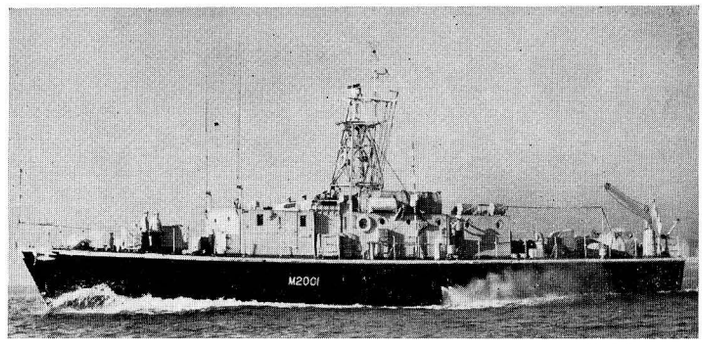
In addition to the vessels above, a number of inshore minesweepers were built in British yards under the United States Navy's off-shore procurement programme for allocation to N.A.T.O. countries, the contract being signed on 13 Mar. 1953. The first of these was launched on 5 Apr. 1954. *Frettenham*, *Isham*, *Kingham*, *Mersham*, *Mileham*, *Petersham*, *Pineham*, *Rendlesham*, *Riplingham*, *Sparham*, *Stedham*, *Sulham*, *Tibenham*, *Wexham* and *Whippingham* were transferred to France in 1954-55. *Hildersham* and *Littlesham* were transferred to India in 1955 and renamed *Bimlipitan* and *Bassein*, respectively. *Bassingham* was transferred to the Royal East African Navy on 25 June 1958, but was returned to the Admiralty on 9 Oct. 1961. *Bedham* was transferred to the Royal Malayan Navy in 1958 and renamed H.M.M.S. *Lanka Suka*. *Cardinham* and *Etchingham* were transferred to the Hong Kong Royal Naval Volunteer Reserve in 1959. *Altham*, *Asheldham* and *Brantingham* were transferred to the Royal Malayan Navy in 1959 and renamed *Sri Johar*, *Sri Perlis* and *Temasek*, respectively. *Malham and Ottringham* were transferred to the Ghana Navy at the end of 1959, and renamed *Yogoda* and *Afadzato*, respectively.

Photograph Notes

Larger photographs of *Chillingham* and *Darsham* (aerial view) appear in the 1959-60 edition, and an aerial view of *Altham* appears in the 1957-58 and 1958-59 editions.

Recent Disposals

Bisham and *Edlingham*, extensively damaged by fire on 29 Sep. 1956, were scrapped in 1959.



DINGLEY 1960, *Wright & Logan*



WATCHFUL 1959, *Wright & Logan*

9 " Ley " Class. M 2001 Series

AVELEY	**BRINKLEY**	**DINGLEY**
BREARLEY	**CHAILEY**	**WATCHFUL** (ex-*Broomley*)
BRENCHLEY	**CRADLEY**	**SQUIRREL** (ex-*Burley*)

Displacement:	123 tons *standard* (164 tons *full load*)
Dimensions:	100 (*pp.*), 106$\frac{3}{4}$ (*o.a.*) × 21$\frac{3}{8}$ × 5$\frac{1}{2}$ feet
Guns:	1—40 mm. Bofors AA. or 1—20 mm. Oerlikon AA. forward
Machinery:	2 Paxman diesels. B.H.P.: 1,100=14 kts. (9 kts. sweeping)
Oil fuel:	15 tons
Complement:	15 in peacetime (22 war)

General Notes

The " Ley " class differ from the " Ham " class in that they are of composite (non-magnetic metal and wooden) construction, instead of all wooden construction. Their superstructure and other features also differ considerably, and they have slightly increased overall length and beam. *Brinkley* and *Dingley* are employed as diving and frogman tenders and their hulls are painted black.

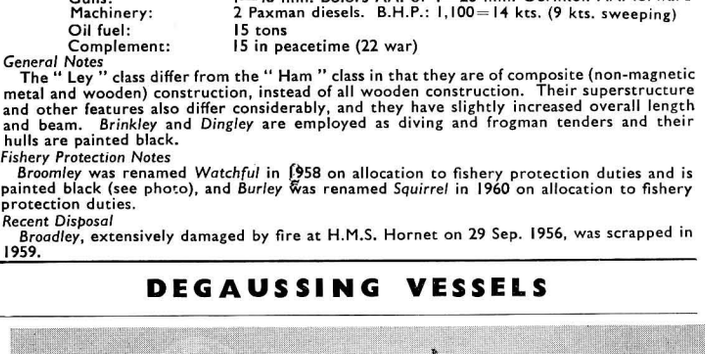
Fishery Protection Notes

Broomley was renamed *Watchful* in 1958 on allocation to fishery protection duties and is painted black (see photo), and *Burley* was renamed *Squirrel* in 1960 on allocation to fishery protection duties.

Recent Disposal

Broadley, extensively damaged by fire at H.M.S. Hornet on 29 Sep. 1956, was scrapped in 1959.

DEGAUSSING VESSELS



DGV 403 *Wright & Logan*

4 Ex-Motor Minesweepers (" 126-ft." Type. 1001 Series)

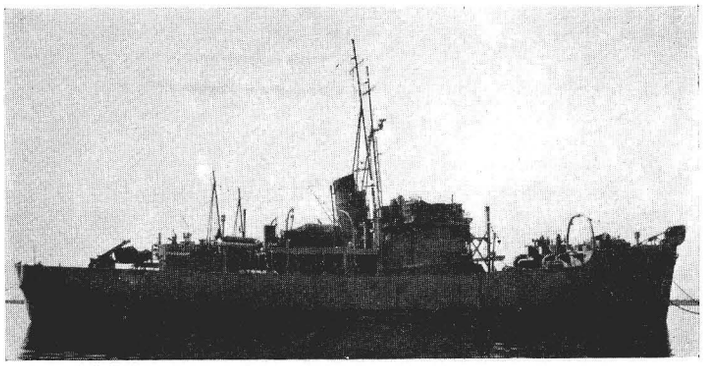
DGV 400 (ex-*MMS 1002*)	**DGV 402** (ex-*MMS 1004*)
DGV 401 (ex-*MMS 1003*)	**DGV 403** (ex-*MMS 1011*)

Displacement:	254 tons *standard* (360 tons *full load*)
Dimensions:	126 (*pp.*), 139$\frac{3}{8}$ (*o.a.*) × 26 × 10$\frac{1}{2}$ (*mean*), 12$\frac{1}{4}$ (*max.*) feet
Machinery:	Gardner diesel. B.H.P.: 500=10 kts.
Oil fuel:	55 tons
Complement:	21

Notes

Former large motor minesweepers of the " 126-ft." Type, 1001 series, of wooden construction, converted into Degaussing Vessels. The *Prestige* was also to have been converted to a Degaussing Vessel, *DGV 404*.

CONTROLLED MINELAYERS



STONECHAT — *P. A. Vicary*

1 Trawler Type

STONECHAT

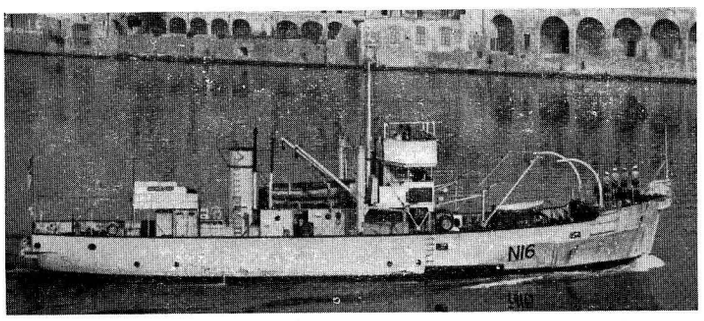
Displacement:	580 tons *standard* (790 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*) × 27½ × 12½ feet
Guns:	1—20 mm. AA., etc.
Machinery:	Triple expansion I.H.P.: 850=12·5 kts.
Boiler:	1 cylindrical

General Notes

Trawler type vessel. Specially equipped for controlled minelaying. Pennant No. N 25. Built by Cook, Welton & Gemmell Ltd., Beverley. Laid down on 23 Feb. 1944. Launched on 22 Aug. 1944. Completed on 12 Nov. 1944. In operational reserve in 1960. Another of this type, the *White Throat*, is in the Royal Canadian Navy. War loss: *Corncrake* (Cochrane). Sister ship *Blackbird* was acquired by the Guent Company and converted into a fishing trawler in 1949.

Transfer Notes

Sister ship *Dabchick* (ex-*Thorney*) was lent to the Royal Malayan Navy and renamed *Penyu* in 1954, and again renamed H.M.M.S. *Sri Johor* in Oct. 1958 consequent upon the transfer of the Royal Malayan Navy to the Government of the Federation of Malaya. She was paid off in 1959 and sold.



MINER VI — 1960, *A. & J. Pavia*

7 "Miner" Class

BRITANNIC (ex-*Miner V*) **MINER III** **MINER VIII**
GOSSAMER (ex-*Miner II*) **MINER VI** **STEADY** (ex-*Miner VII*)
MINER I

Displacement:	300 tons *standard* (346 to 355 tons *full load*)
Dimensions:	110¼ × 26½ × 8 feet
Machinery:	Ruston & Hornsby diesels. 2 shafts. B.H.P.: 360=10 kts.

General Notes

All built by Philip & Son Ltd., Dartmouth, and all engined by Ruston & Hornsby Ltd., Lincoln. *Gosamer* is now rated as a mine location vessel and is no longer capable of minelaying. She is attached to the Underwater Detection Establishment at Portland and is a tender to H.M.S. *Osprey*. *Miner I* and *Miner VIII* are the accommodation ships for the high speed experimental submarines *Excalibur* and *Explorer*, respectively. *Miner I* now has a large deckhouse aft of the bridge completely enveloping the funnel only the top of which is just visible. *Miner VIII* has a small deckhouse abaft of the funnel. *Miner V* has been converted into a cable lighter and was renamed *Britannic* in 1960. *Miner VII* has been adapted as a stabilisation trials ship at Portsmouth and was renamed *Steady* in 1960. *Miner III* is now tender for Clearance Diving Teams attached to Vernon.

Photograph Notes

Larger photographs of *Miner V* and *Gossamer* (aerial view) appear in the 1957-58 and earlier editions. A larger photograph of *Miner VI* appears in the 1958-59 and 1959-60 editions.

Pennant No.	*Name*	*Begun*	*Launched*	*Completed*
N 11	*Miner I*	21 Nov. 1938	6 July 1939	26 Oct. 1939
N 12	*Miner II*	22 Dec. 1938	18 Aug. 1939	19 Jan. 1940
N 13	*Miner III*	18 Jan. 1939	16 Nov. 1939	16 Mar. 1940
Ex-N 15	*Miner V*	22 Apr. 1940	2 Nov. 1940	26 June 1941
N 16	*Miner VI*	22 Apr. 1941	7 Feb. 1942	30 May 1942
Ex-N 17	*Miner VII*	31 Mar. 1943	29 Jan. 1944	31 Mar. 1944
N 18	*Miner VIII*	28 Mar. 1942	24 Mar. 1943	15 May 1943

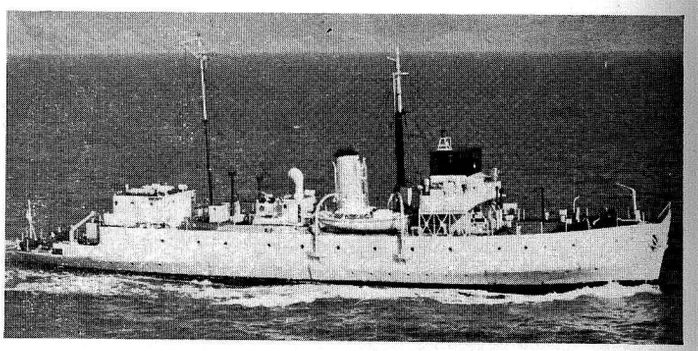
Recent Disposals

Of the "Miner" class, *Miner IV* was officially scheduled for disposal in 1961.

The controlled minelaying trawler *Redshank* was scrapped in 1958. The controlled minelayer *Penyu* was disposed of in 1959, see *Transfer Notes* above (full details of this ship in the 1958-59 edition).

The controlled minelayer *Linnet* was placed on the sales list in 1961 (photograph and particulars in the 1960-61 edition).

MINELAYER



PLOVER — *Added* 1960, *Official*

1 Coastal Type

PLOVER

Displacement:	805 tons *standard* (1,020 tons *full load*)
Dimensions:	180 (*pp.*), 195¼ (*o.a.*) × 37½ × 8¼ (*mean*), 10 (*max.*) feet
Guns:	2 M.G.
Machinery:	Triple expansion. I.H.P.: 1,400=14·75 kts.
Complement:	69

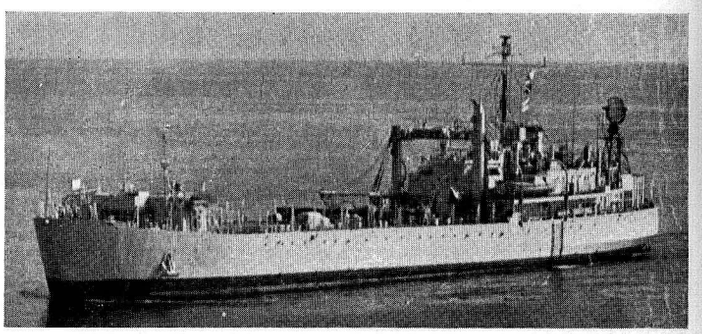
General Notes

Designed and built as a coastal minelayer. Pennant No. N 26. Built by Wm. Denny & Bros. Ltd., Dumbarton. Laid down on 7 Oct. 1936. Launched on 8 June 1937. Completed in Sep. 1937. Formerly employed as minelaying tender to the Torpedo and Anti-Submarine School in *H.M.S. Vernon*. Refitted in 1955 when the mainmast was stepped, the radar cabinet on the flag deck removed, and the radar aerial erected on the roof of the bridge. Now employed in the Portsmouth Squadron under the administration of the Captain (D).

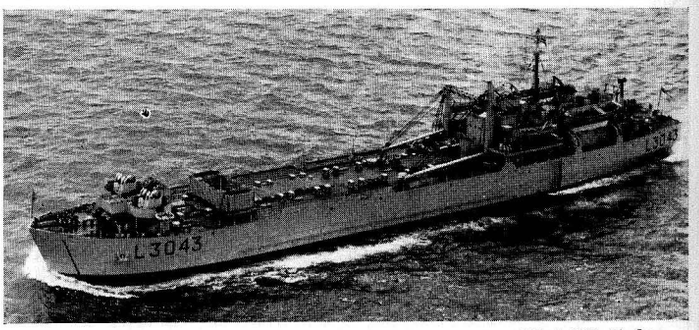
Photograph Notes

A large photograph appears in the 1956-57 to 1959-60 editions, and a larger aerial view appears in the 1959-60 edition.

TANK LANDING SHIPS



NARVIK — 1961, *A. & J. Pavia*



MESSINA — *Added* 1960, *Skyfotos*

2 LST (C) Type

MESSINA (ex-*LST* (*C*) 3043) **NARVIK** (ex-*LST* (*C*) 3044)

Displacement:	2,256 tons *light* (4,980 tons *full load*)
Dimensions:	330 (*pp.*), 345⅝ (*o.a.*) × 54 × 4½ (forward), 12¼ (*max.*) (aft) feet (Beaching draughts)
Guns:	10—20 mm. Oerlikon AA. (*Messina* 4—40 mm. Bofors AA. and 20 mm.)
Machinery:	Triple expansion steam reciprocating. 2 shafts. I.H.P.: 5,500=13 kts.
Boilers:	2 three-drum type
Oil fuel:	1,400 tons
Complement:	105

General Notes

Can carry 1 LCT, 5 LCA, 15 40-ton tanks, 15 lorries. *Narvik* was the flagship of the task force for the atomic test in Monte Bello Islands in 1956. She was earmarked for disposal in 1960, but her future was reconsidered and she was fitted out as a submarine support ship at Chatham to relieve the submarine depot ship *Forth* serving the First Submarine Squadron in the Mediteranean, and as accommodation ship at Malta. *Messina* took part in the nuclear test at Christmas Island in 1956-58, and was converted to an LST(A) in 1960 for service in a new Amphibious Warfare Squadron.

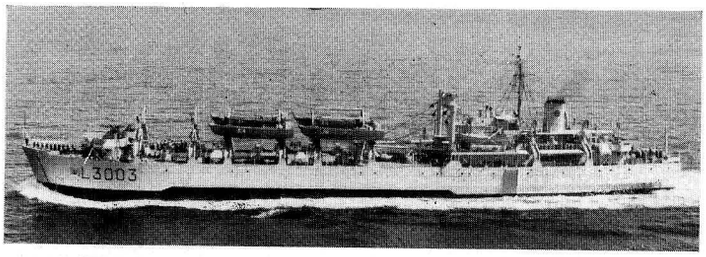
Photograph Notes

A larger photograph of *Narvik* appears in the 1952-53 to 1959-60 editions.

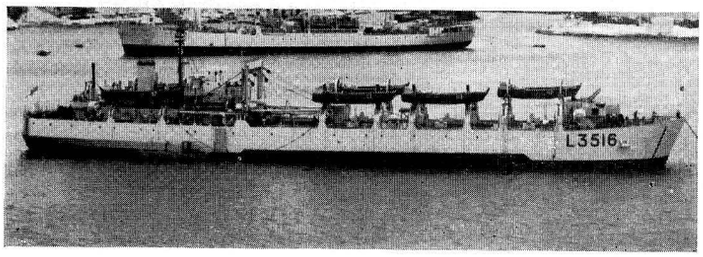
Recent Disposals of "Ben" Class

Of the two LST(Q) type tank landing ships, *Ben Nevis* was scheduled for disposal in 1962 and *Ben Lomond* was sold out of the Service in 1960 (photograph in the 1956-57 to 1959-60 editions).

Tank Landing Ships—*continued*



ANZIO 1962, *Official*



STRIKER 1960, *A. & J. Pavia*

2 LST (A) Type

ANZIO (ex-*LST* (A) 3003) **STRIKER** (ex-*LST* (A) 3516)

Displacement:	2,140 tons *light* (5,000 tons *full load*)
Dimensions:	330 (*pp.*), 347½ (*o.a.*) × 55¼ × 4 7/12 (forward), 12 (*max.*) feet
Guns:	7 or 8—20 mm. Oerlikon AA., 4—40 mm. forward; *Anzio* 6—40 mm.
Machinery:	Triple expansion 2 shafts. I.H.P.: 5,500=13 kts. (10 kts. cruising)
Boilers:	2 Admiralty 3-drum type
Oil fuel:	1,400 tons
Complement:	115 officers and ratings (*Striker* 152)

General Notes

Can carry 10 tanks plus 15 vehicles. The above ships were converted to LST (A). They were stiffened to carry heavy tanks. *Anzio* was converted to LST (A) in 1955-56. *LST* (3) 3031 was an A.A. Firing ship and later a Mechanical Training Ship administered by H.M.S. Sultan, Gosport.

Class Notes

LST (3) 3001, 3009, 3021, 3024, 3028, 3037 and 3509 are on charter to War Office, and LST (3) 3010, *Empire Cymric*, LST (3) 3041, *Empire Doric*, LST (3) 3507, *Empire Gaelic*, LST (3) 3512, *Empire Celtic*, LST (3) 3519, *Empire Baltic* and LST (3) 3534, *Empire Cedric* (3507, 3519 and 3534 are for disposal) are on commercial charter through the Ministry of Transport: they are available for recall in emergency. LST (3) 3002, 3007, 3020, 3503 and 3506 are on loan to the Royal Hellenic Navy. LST 322 returned from Royal Hellenic Navy May 1953.

Transfer Notes

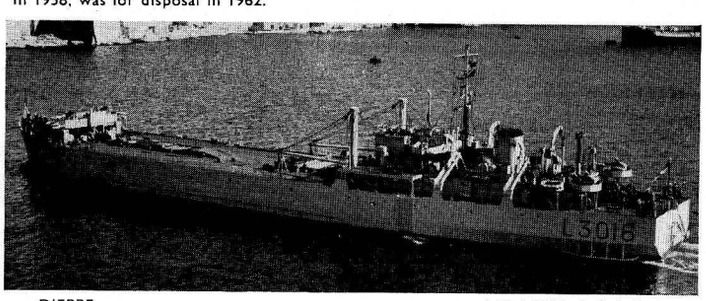
On commercial charter *Battler* became *Empire Puffin* (now on loan to the Ministry of Transport and for disposal), *Pursuer* became *Empire Term*, *St. Nazaire* became *Empire Skua*, *Slinger* became *Empire Kittiwake*, *Thruster* became *Empire Petrel*, *Tromso* became *Empire Gannet* and LST (3) 3033 became *Empire Shearwarer* (on loan to the Ministry of Transport).

Nomenclature Notes

All the "Empire" names above were given to *LSTs* taken over by the Ministry of Transport and Civil Aviation at the time of the Suez action in 1956. All the "Empire" named LSTs have no armament.

Recent Disposals

Bruiser was stricken in 1959. *Vagso* was scrapped in 1960, and *LST* (3) 3031, *Puncher* and *Ravager* were also for disposal in 1961. *Chaser*, designated as a submarine support ship in 1958, was for disposal in 1962.



DIEPPE *Added* 1960, *A. & J. Pavia*

4 LST (3) Type

DIEPPE (ex-*LST* (3) 3016) **STALKER** (ex-*LST* (3) 3515)
LOFOTEN (ex-*LST* (3) 3027) **TRACKER** (ex-*LST* (3) 3522)

Displacement:	2,140 tons *light* (4,820 tons *full load*)
Dimensions:	330 (*pp.*), 347½ (*o.a.*) × 55¼ × 4 7/12 (forward), 12 (*max.*) feet
Guns:	8—20 mm. Oerlikon AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=13 kts. (10 kts. cruising)
Boilers:	2 Admiralty 3-drum type
Oil fuel:	1,400 tons
Complement:	115 officers and ratings.

General Notes

Searcher was scrapped in 1949. *Smiter* was wrecked off Lagos on 25 Apr. 1949. *Attacker* was renamed *Empire Cymric* on commercial charter in 1954. *Stalker* was designated as a submarine support ship in 1958. *Lofoten* and *Tracker* were designated as harbour accommodation ships in 1958. *Hunter* was handed over to the Ministry of Trasnport and Civil Aviation.

Transfer Notes

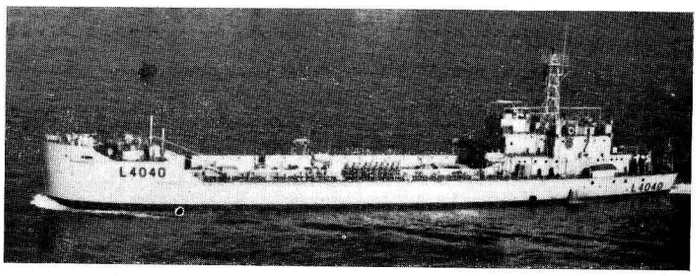
Avenger was transferred to the Indian Navy in 1949 and renamed *Magar*

On commercial charter *Charger* became *Empire Nordic*, *Fighter* became *Empire Grebe*, *Hunter* became *Empire Curlew*, *Trouncer* became *Empire Gull*, *Trumpeter* became *Empire Fulmar* and *Walcheren* became *Empire Guillemot*.

Recent Disposals

Reggio (the first Landing Ship Tank (Assault)), photograph in the 1952-53 to 1959-60 editions, *Salerno* and *Suvla* were for disposal in 1960, and *Zeebrugge*, employed as a harbour accommodation ship since 1958, in 1961.

LANDING CRAFT



BASTION *Added* 1962, *A. & J. Pavia*



RAMPART (deckhouse forward, lattice mast aft) *Added* 1960, *A. & J. Pavia*

Major Landing Craft

10 LCT (8) Type

ARROMANCHES (ex-*LCT* (8) 4086) **PARAPET** (ex-*LCT* (8) 4039)
BASTION (ex-*LCT* (8) 4040) **PORTCULLIS** (ex-*LCT* (8) 4044)
BUTTRESS (ex-*LCT* (8) 4099) **RAMPART** (ex-*LCT* (8) 4037)
CITADEL (ex-*LCT* (8) 4038) **REDOUBT** (ex-*LCT* (8) 4001)
COUNTERGUARD (ex-*LCT* (8) 4043) **SALLYPORT** (ex-*LCT* (8) 4064)

Displacement:	657 tons *light*, 895 to 1,000 tons (*loaded*)
Dimensions:	225 (*pp.*), 231¼ (*o.a.*) × 39 × 3¾ (forward), 5 7/12 (aft) feet (Beaching Draughts)
Machinery:	4 Paxman engines. B.H.P.: 1,840=12·6 kts. (9 kts. cruising)
Complement:	33 to 37

General Notes

Bastion, *Rampart* and *Redoubt* have lattice mast (see photo). *Rampart* has deckhouse forward. *Arromanches* has a large trellis or lattice mast forward. *Arromanches* and *LCT* (8) 4002, 4041, 4061, 4062 (*Aachen*), 4073, 4074 (*Antwerp*), 4085 (*Agedabia*), 4097, 4128 (*Arrezzo*) and 4164 were loaned to the War Office.

Photograph Notes

Photographs of *Redoubt* in the 1956-57 to 1959-60 editions, and of *Arromanches* in the 1960-61 and 1961-62 editions.

Recent Disposals

LCT (8) 4042, 4045, 4050, 4148, 4156 and 4165 were stricken from the list in 1958, and *LCT* (8) 4025, 4049, 4063 and 4098 were stricken from the list in 1960. *LCT* (8) 4063, *Jawada*, on loan to a commercial company, was for dispsoal at Bahrein. *Citadel* (LCT (8) 4038), *Portcullis* (LCT (8) 4044) and *Sallyport* (LCT (8) 4064) were scheduled for disposal in 1962.

LCT (4) 404 (ex-1231), *LCT* (4) 405 (ex-523) photograph in the 1960-61 edition, and *LCT* (4) 407 (ex-1106, photograph in the 1951-52 to 1959-60 editions, were scrapped in 1960. *LCT* (4) 403 (ex-1220), *LCT* (4) 406 (ex-941) and *LCT* (4) 408 (ex1202) were for disposal with *LCT* (4) 1274 and *LCT* (4) 1283 (on the sale list). *LCT* (4) 1312 was sold to the Royal Nigerian Navy in 1959.

Minor Landing Craft

2 LCM (9). New Construction.

Notes

Two new LCM (9)s are under construction at Vospers Ltd., Portsmouth. Laid down in Apr. and May 1962.

18 LCM (7). 7,000 Series

Displacement:	28 tons *light* (63 tons *loaded*)
Dimensions:	60¼ × 16 × 3 3/4 feet
Machinery:	B.H.P.: 290=9·8 kts.

General Notes

There are 18 LCM (7)s ranging from No. 7016 to 7214. LCM (7) 7007, 7076, 7083, 7118, 7119, 7121, 7124, 7186, 7209 and 7214 were in the Rhine Squadron.

Engineering Notes

Some of the surviving LCM (7) type landing craft were re-engined with Gray Marine unit.

68 LCA. 100 Series and 1,000 Series

Displacement:	8·5 tons *light* (13·5 tons *full load*), LCA (2)s 11·5 tons *light*
Dimensions:	41½, LCA (2)s, 43 × 10 × 2½ feet
Machinery:	B.H.P.: 130=8 kts.

General Notes

There are 33 LCA (2)s Nos. 101 to 136, and 35 LCA (1)s ranging from No. 1227 to No. 1981, including 13 on loan to the Royal Hellenic Navy. Nineteen LCA (1) were in the Rhine Squadron There are also a number of variations and prototypes of about the same length (43 feet): Raiding Landing Craft, including LCR 5507 and 5508, and Navigational Landing Craft, including LCN 604 (ex-LCR 5505). LCA (1) 1275, 1330, 1481, 1485, 1644, 1678, 1705, 1712, 1733, 1745, 1779, 1787 and 1789 were for disposal in 1961.

11 LCP (L) 1, 2 and 3. 500 Series

Displacement:	6·5 tons *light* (10 tons *loaded*)
Dimensions:	37 × 11 × 3¼ feet
Machinery:	B.H.P.: 225=12 kts.

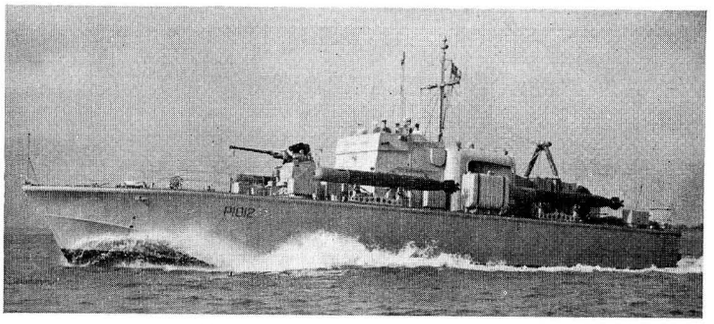
General Notes

There are 8 LCP (L)s ranging from No. 528 to No. 559, see details above, one LCP (L) 2, No. 501, and two LCP (L) 3s, Nos. 502 and 503.

Engineering Notes

Aurora gas turbines have been installed in LCP (L) 3 No. 502.

FAST PATROL BOATS



BRAVE SWORDSMAN 1961, *Wright & Logan*



BRAVE BORDERER 1960, *courtesy Vosper Ltd., Portsmouth (Builders)*

2 " Brave " Class
(Gas Turbine Type Convertible Torpedo Gunboats)

BRAVE BORDERER **BRAVE SWORDSMAN**

Displacement:	89 tons *standard* (114 tons *full load*)
Dimensions:	90 (*pp.*), 96 (*w.l.*), 98⅜ (*o.a.*) × 25½ × 6¼ (*mean*) feet
Armament:	As M.G.B.: 2—40 mm. single Bofors guns in power operated mountings, and 2—21 inch side launched torpedoes As M.T.B.: 4—21 inch side launched torpedoes, and 1—40 mm. single Bofors gun
Machinery:	3 Bristol Marine Proteus 1250 gas turbine propulsion units and jets. 3 shafts. S.H.P.: 10,500=over 50 kts. (on trials). Fixed pitch propellers
Fuel capacity:	25 tons
Complement:	20 (3 officers, 17 ratings); 22 as Senior Officers' Ship of a Squadron (3 officers, 19 ratings)

General Notes

This class of two fast patrol boats or convertible gunboats and torpedo boats, intermediate between the " Bold " and " Dark " Classes, were built at Vosper Ltd., Portsmouth. The hull is framed in welded aluminium with double skinned planking of mahogany and sheathed with glass fibre below the water line. An hydraulic operated flap fitted on the transom maintains the crafts running trim. They are very beamy in relation to their length, the ratio being less than 1:4 only. H.M.S. *Brave Borderer*, the first of the new " Brave " class Fast Patrol Boats (Medium), was launched at the Portchester, Hants., yard of Vosper Ltd. on 7 Jan. 1958 and was accepted from her builders for service with the Royal Navy on 26 Jan. 1960. Cost: £880,000. *Brave Swordsman* was launched at the same yard on 22 May 1958 and was handed over to the Royal Navy on 20 July 1960. Cost: £640,000.

Experimental Notes

Both boats are in the Coastal Forces Trials and Special Service Squadron attached to H.M.S. *Dolphin II*, formerly H.M.S. *Hornet*, shore headquarters at Gosport.

Engineering Notes

The craft are powered with Proteus Gas Turbines, originally designed for aircraft use, but adapted for marine purposes by Bristol Siddeley Engines Ltd., Filton, in association with W. H. Allen, Sons & Co. Ltd., Beford, who supplied the primary reduction gears and the reverse reduction gearboxes. In addition to the Proteus engines, Rover Gas Turbines driving Metro-Vickers 40 kw. generators are fitted to provide electrical power. No diesel machinery is fitted. Both Proteaus and Rover turbines run on pool diesel fuel. The present authorised maximum rating of the marine Proteus is 3,500 S.H.P. and the maximum continuous rating 2,800 S.H.P. A striking feature of the Proteus engine is that with the primary reduction gearbox it gives I.H.P. for every 0·83 lbs. of its weight, and including the reverse reduction gearbox, I.H.P. for every 1·6 lbs. of its weight. During trials speeds in excess of 50 knots were continually reached, a most important achievement since these fast patrol boats were designed for offensive operations against enemy warships and merchant ships, particularly the latter, in coastal, inshore and shoal waters, where high speed is essential. The propellors are relatively small and of high speed. This is a novel and unusual feature resulting from joint research carried out by the Admiralty and Vosper Ltd. using the firm's cavitation tunnel. Gas turbines give an increase of 35 per cent in total power combined with a reduction of 50 per cent in machinery weight and a saving of 25 per cent in machinery space.

Electrical Notes

The electrical installation incorporates new lightweight equipment and methods of an experimental character designed by Vosper Ltd. to make an overall contribution to weight reduction. The generator units comprise two Rover gas turbines, each of 40 kilowatts. The installation is by Vosper Ltd.

Design Notes

The design studies were carried out under Admiralty instructions by Vosper Ltd. as a joint effort with Admiralty departments and co-ordinated by the Director General, Ships. The Admiralty's extensive research facilities were available at all stages in design. Since being completed both craft have undergone extensive evaluation trials and the design has proved to be very satisfactory.

Armament Notes

The originally designed armament of the " Brave " Class functioning as Motor Gun Boats comprised one 3·3 inch calibre turret mounted gun specially developed for this craft and fitted with a stabilisation system capable of dealing with the severe motion experienced in this type of high speed craft. With the 3·3 inch gun was one 40 mm. single barrelled mounting (Bofors) and two 21 inch torpedoes.

Functional Notes

In addition to their roles as gunboats or torpedoe boats these craft can also be employed as minelayers or high speed raiding craft fpr Commandos.

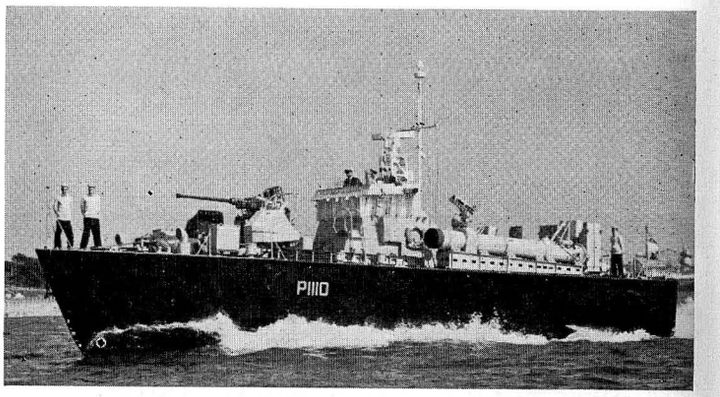
New Construction

Vosper has built as a private venture a gas turbine patrol boat of new design named *Ferocity*, with a displacement of 75 to 85 tons, an overall length of 90⅔ feet and a beam of 22 feet, propelled by two Bristol Siddely Proteus Engines aggregating 8,500 B.H.P. equal to a maximum speed of 50 to 54 knots, and armed with four 21-inch torpedoes and one 40 mm. gun (or two 21 inch torpedoes and two 40 mm. guns.

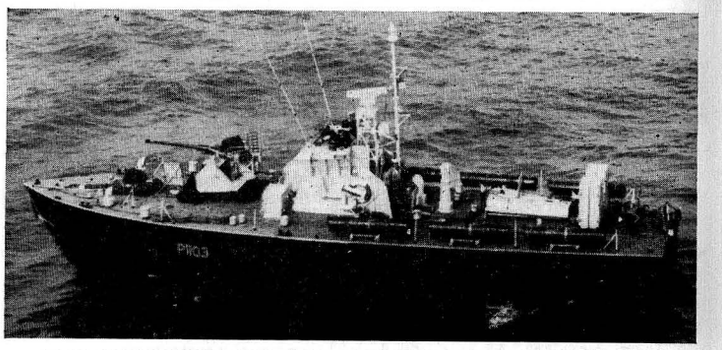
Recent Disposals of " Bold " Class

The fast patrol boat *Bold Pathfinder* was officially approved to be disposed of in 1962, and her sister boat *Bold Pioneer* was scrapped in 1958.

Fast Patrol Boats—*continued*



DARK HIGHWAYMAN 1960, *Wright & Logan*



DARK ANTAGONIST (carrying 6 ground mines) *Added* 1960, *Official*

7 " Dark "Class
(Convertible Motor Torpedo Boats and Motor Gun Boats)

DARK ADVENTURER **DARK HERO** **DARK HUSSAR**
DARK FIGHTER **DARK HIGHWAYMAN** **DARK INTRUDER**
DARK GLADIATOR

Displacement:	50 tons *standard* (65 tons *full load*)
Dimensions:	67 (*w.l.*), 71⅓ (*o.a.*) × 19⅝ × 3¼ (*mean*), 6 7/12 (*max.*) feet.
Armament:	As M.G.B.: 1—4·5 inch gun, 1—40 mm. AA. gun (or 2—40 mm. AA. guns) As M.T.B.: 4—21 inch torpedo tubes, 1—40 mm. AA. gun Rocket flare launchers and depth charge chutes were also fitted.
Machinery:	2 Napier Deltic diesels. S.H.P.: 5,000 47 kts. (designed), 40 kts. sea speed
Fuel capacity:	8 tons
Complement:	15

Generai Notes

Boats are of composite construction, aluminium alloy being used for the framing and deck. The hulls of this class are now painted black. Several boats of this class were renamed. Cost £325,000 to £338,000.

Dark Buccaneer and *Dark Clipper* were commissioned at H.M.S. *Hornet*, the Coastal Forces Base at Gosport on 31 Jan. 1957. These boats completed the equipping of the second operational squadron with diesel engined craft, bringing to a close the era of petrol engined boats in coastal forces. The " Dark " class have been officially described as uncomfortable and noisy but they are of a newer design, have more power, mount a better armament and are generally more reliable. Diesel fuel does not catch fire as easily as high octane petrol.

Experimental Notes

Dark Scout, the last of the 19 boats, launched on 20 Mar. 1958 at Saunders-Roe (Anglesey) Ltd., Beaumaris, was in the Coastal Forces Trials and Special Service Squadron at H.M.S. *Dolphin II*, Fort Blockhouse, Gosport. Unlike the earlier craft which were of composite wood planking on aluminium framing, this boat was of all-welded aluminium throughout. The hull of the boat was of hard chine form which was developed to give good seagoing qualities combined with high maximum and cruising speeds.

Engineering Notes

These fast patrol boats incorporate a new design of diesel machinery which for its power is the lightest unit so far designed. *Dark Hunter*, launched on 18 Mar. 1954, was the first of a new class powered by the Napier Deltic engine which has a very high performance, and takes the form of an opposed piston two-stroke cycle engine constructed in triangular form with three crankshafts, an arrangement new to engineering. The Deltic engine was designed and developed for the Royal Navy by D. Napier & Son Ltd., Acton, London, on behalf of their parent company, the English Electric Company Ltd. The engine develops 2,500 shaft horse power at 2,000 revolutions per minute. The engine and reverse gear weighs only 10,500 lbs., and therefore gives one horse power for every 4·2 lbs. of its weight. This is the best power-weight ratio ever achieved in a marine diesel engine. No petrol is carried in these boats because all power is provided by diesel machinery. In addition to the Deltic engines, a Foden FD. 4 two-stroke diesel engine is fitted to drive the 35 kw auxiliary generator set and bilge pump. Comprehensive radio and radar installations are also fitted.

Functional Notes

In addition to their roles as gunboats or torpedo boats these craft can also be employed as minelayers (see photograph of *Dark Antagonist* above).

Class Notes

Five vessels of the " Dark " type were purchased by Burma, and two similar boats were acquired by Finland.

Photograph Notes

Photographs of *Dark Hussar* in the 1959-60 edition, of *Dark Adventurer* (as gunboat) in the 1955-56 to 1958-59 editions, of *Dark Rover* (as torpedo boat) in the 1957-58 edition, and of *Dark Agressor* in the 1955-56 and 1956-57 editions. The photograph of *Dark Antagonist* above shows her fitted with six ground mines and one Bofors (demonstrating that this class can also be used as minelayers).

Cancellation Notes

The construction of another boat of this class, namely *Dark Horseman*, was abandoned.

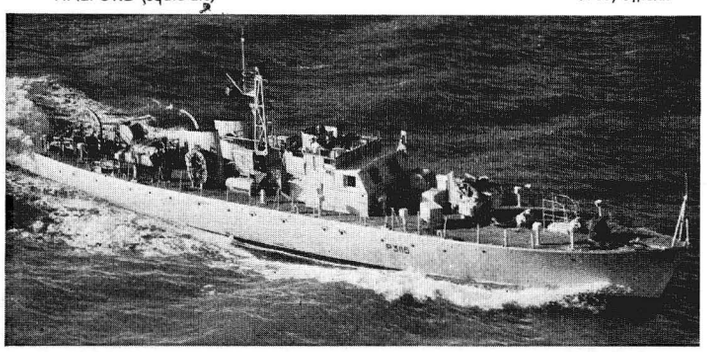
Recent Disposals

Following the Admiralty decision in 1957 to take nearly all fast patrol boats out of commission, nine new boats of the " Dark " Class, *DarkAggressor*, *Dark Antagonist*, *Dark Avenger*, *Dark Biter*, *Dark Buccaneer*, *Dark Clipper*, *Dark Invader*, *Dark Killer* and *Dark Rover* were earmarked to be disposed of in the near future. But on 20 Dec. 1960 it was stated by the First Lord of the Admiralty that the Navy had not abandoned coastal forces altogether. A nucleus had been kept alive of three boats in the fast special Service Squadron so that the art would not be lost, and another nine (now reduced to seven—see names above) boats were in operational reserve, therefore preserving the foundations on which the forces could be rapidly expanded if they were needed. In addition to the nine boats named above *Dark Hunter* and *Dark Scout* are scheduled for disposal. Actually, however 17 of the 18 boats of the " Dark " class were still on the list in Aug. 1962, only *Dark Aggressor* having been disposed of.

SEAWARD DEFENCE BOATS



HALFORD (squid aft) 1961, *Official*



HINKSFORD 1960, *Skyfotos*

17 "Ford" Class

ABERFORD **DUBFORD** **MARLINGFORD**
AXFORD **GIFFORD** **MAYFORD**
BECKFORD **GREATFORD** **MONTFORD**
BRYANSFORD **HINKSFORD** **SHALFORD**
CAMBERFORD **ICKFORD** **TILFORD**
DROXFORD (ex-*Dee*, ex-*Droxford*) **KINGSFORD**

Displacement:	120 tons *standard* (160 tons *full load*)
Dimensions:	110 (*pp.*), 117½ (*o.a.*) × 20 × 5 feet
Guns:	1—40 mm. Bofors AA. (none in *Ickford*)
A/S weapons:	1 Squid triple-barrelled depth charge mortar aft (*Shalford* type), others D.C. rails and large and small D.C.
Machinery:	Davey Paxman diesels. Foden engine on centre shaft. B.H.P.: 1,100 = 18 kts. (*max.*), 15 kts. sea speed
Complement:	19

General Notes

An entirely new design of naval vessel, their purpose being to detect, locate and destroy submarines, including midget submarines, in the approaches to defended ports. Their armament includes depth charge release gear and flares. Modern electronic equipment is used in association with their armament. The boats have comprehensive electrical installations. 3101 Series. *Tilford* was launched on 21 Nov. 1956 at Vosper Ltd., Portsmouth; she has main machinery manufactured by Ransomes, Sims & Jefferies Ltd., Ipswich, under licence from Davey Paxman & Co. Ltd., Colchester, and Fodens Ltd., Sandbach, Cheshire. In 1961 she was commissioned to work with helicopters at Portland, training their crews in sea rescue and preparing them for the helicopters' new role of submarine killer.

Photograph Notes

Photograph of *Aberford* in the 1957-58 to 1959-60 editions. A port quarter view of *Shalford* appears in the 1955-56 to 1960-61 editions.

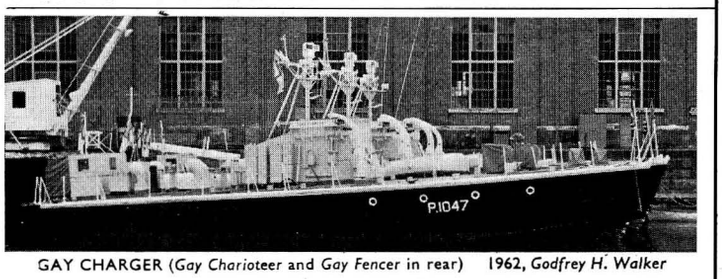
Transfer Notes

Brayford was sold to the South African Navy 1954 and *Glassford* in 1955. *Desford* was transferred to the Royal Ceylon Navy in 1955. Two seaward defence boats are being built for Ghana at Yarrows.

R.N.R. Notes

Droxford was attached to the Mersey Division R.N.V.R., and renamed *Dee* (until 1959 when she became tender to H.M.S. *Vincent* at Gosport), *Dubford* to the Clyde Division, and *Greatford* to the Sussex Division.

FAST TARGET TOWING BOATS



GAY CHARGER (*Gay Charioteer* and *Gay Fencer* in rear) 1962, *Godfrey H. Walker*

3 "Gay" Class

GAY CHARGER **GAY CHARIOTEER** **GAY FENCER**

Displacement:	40 tons *standard* (50 tons *full load*)
Dimensions:	71½ (*pp.*), 75⅝ (*o.a.*) × 20½ × 2½ (*mean*), 4½ (*max.*) feet
Machinery:	Packard high octane petrol engines. B.H.P.: 4,050 = 43 kts. (*approx.*), 33 kts. sea speed
Fuel capacity:	10 tons

General Notes

Survivors of a class of twelve post-war short motor torpedo boats. As gunboats they carried one new type short 4·5 inch gun forward (25 calibres) and one 40 mm. AA. gun aft; as torpedo boats they carried two 21 inch torpedo tubes with two 40 mm. AA. guns. They are almost entirely of wooden construction. The hull incorporates structural members of water resistant plywood. Completed in 1954. Cost £78,000 to £125,000 each. These boats, which were largely a repeat of war-time designs but which served their purpose in the interim period until diesel machinery of a new design was ready, were superseded operationally by the improved vessels of the "Dark" class. *Gay Charger*, *Gay Charioteer* and *Gay Fencer* are used for target towing under the administration of the Commodore, Devonport.

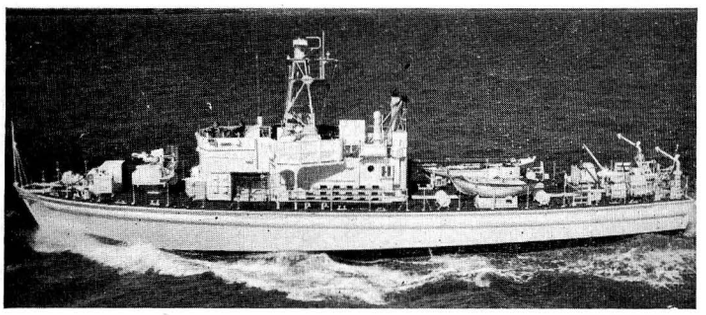
Photograph Notes

Photograph of *Gay Forester* (as torpedo boat) in the 1956-57 to 1959-60 editions, of *Gay Bombardier* (as gunboat) in the 1953-54 to 1957-58 editions, and of *Gay Fencer* (as target boat) in the 1960-61 and 1961-62 editions.

Recent Disposals

Gay Archer, *Gay Bombadier*, *Gay Bowman*, *Gay Caribineer* and *Gay Cavalier* are all laid up at Hythe and will be sold in the near future. *Gay Bruiser*, *Gay Centurion*, *Gay Dragoon* and *Gay Forester* were all on the sales list in 1961.

INSHORE SURVEY CRAFT



ECHO (as built with gun) *Added* 1960, *Official*

3 "E" Class (*Inshore Minesweeper Type*)

ECHO **A 70** **EGERIA** **A 72** **ENTERPRISE** **A 71**

Displacement:	160 tons
Dimensions:	106⅝ (*o.a.*) × 21¼ × 5 feet
Machinery:	2 Paxman diesels. 2 shafts. Controllable pitch propellers. B.H.P.: 700 = 14 kts. (*max.*), 12 kts (*normal*)
Oil fuel:	15 tons
Complement:	18 (2 officers, 16 ratings)

General Notes

Echo, the first of the new class of Inshore Survey Craft, was launched from the yard of J. Samuel White & Co. Ltd., Cowes, on 1 May 1957, and commissioned on 12 Sep. 1958.

J. Samuel White & Co. Ltd. are the hull builders. It is of all-wood construction in which extensive use has been made of glued laminated members. The main machinery manufacturers are Davey Paxman & Co Ltd., Colchester.

She carries no armament; but she was fitted with a 40 mm. gun for trials (see photograph above) and retains her gun seat. In wartime she could be used as an armed inshore minesweeper on which her design was based.

Egeria was built by Wm. Weatherhead & Sons Ltd., Cockenzie, and *Enterprise* was built by M. W. Blackmore & Sons Ltd., Bideford.

All three of these craft were built to carry out coastal and harbour hydrographic surveys for the Hydrographer of the Navy around the coasts of the British Isles. The prime requirements of such craft are ability to navigate in shoal water, to obtain depths and detect the existence of wrecks or obstructions on the sea bed, coupled with the ability to fix the position of the craft with accuracy.

They are equipped with two echo sounding machines and asdics for wreck location, and carry surveying equipment for carrying out triangulation ashore, which provides the basis for fixing the crafts' position afloat, by horizontal sextant angles. They also have the most modern radar, with facilities for measuring ranges accurately for position fixing; and are also fitted with wire sweep gear for finding the minimum depths over wrecks and similar obstructions. Their crews include two surveying officers and four surveying ratings.

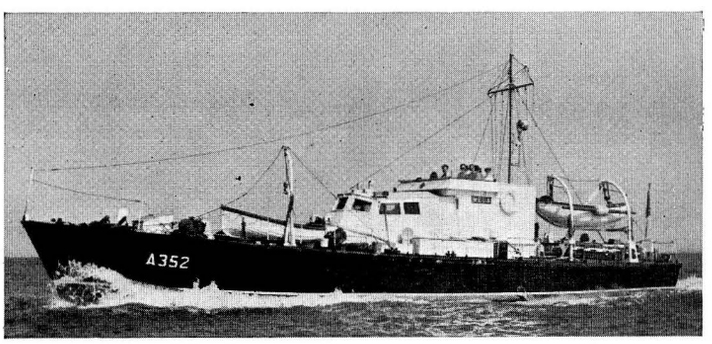
These Inshore Survey Craft are self-contained units having their own echo sounding launch for shallow survey work and a modern chart room for survey plotting and compilation.

These vessels will replace the Surveying Motor Launches which were built in the early 1940s as harbour defence launches.

Photograph Notes

A larger aerial photograph of *Echo*, as modified without armament, appears in the 1959-60 edition.

SURVEY MOTOR LAUNCHES



MEDA 1959, *Wright & Logan*

2 Harbour (Seaward) Defence Motor Launch Type

MEDA (ex-*SML* 352, ex-*HDML* 1301) **MEDUSA** (ex-*SDML* 3516, ex-*HDML* 1516)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5½ feet
Machinery:	2 Gardner diesels. 2 shafts. B.H.P. 260 to 320 = 11 to 12 kts.
Complement:	11 to 14

General Notes

Survey Motor Launches. HDML type. *Meda* is employed on South Coast Survey. Square cabin, deckhouse aft. White hull, buff upperworks. Armament removed while employed on surveying duties. SDML 3516 was refitted in 1960 and named *Medusa* for the East Coast Survey Unit.

Recent Disposals

SML 327 was discarded in 1957, and SML 322, SML 325 and SML 326 were discarded in 1959. SML 323 (ex-HDML 1081) was transferred to the Persian Navy on 21 June 1956. SML 324 was scrapped in 1960.

Disposals of Seaward Defence Motor Launches

Of the two survivors of the seaward defence motor launches, SDML 3515 was presented to the Royal Nigerian Navy in 1959 (see full particulars in the 1959-60 edition), and SDML 3516 was refitted as a special survey craft (see *Medusa* above).

Disposals of Rescue Motor Launches

Of the three surviving Rescue Motor Launches of the Fairmile "B" Type, RML 496 was scrapped in 1958 and RML 572 and RML 515 disposed of in 1959.

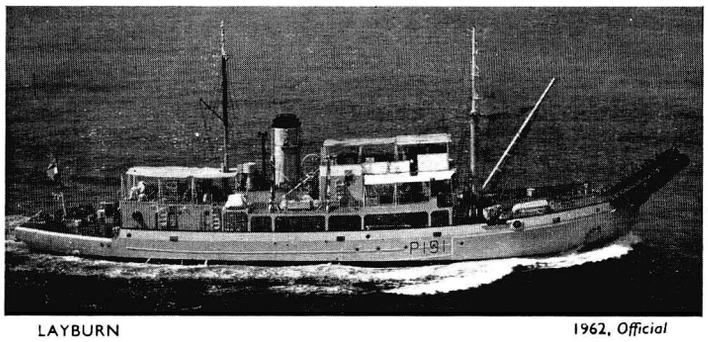
Disposals of Minesweeping Motor Launches

The four remaining Motor Launches, ML 2250, ML 2583, ML 2592 and ML 2840 were de-rated to tenders, target boats, etc., in 1960 or are for disposal. Two Minesweeping Motor Launches, MML 2217 and MML 2223, were transferred to Nigeria in 1960.

Disposals of Motor Minesweepers

Of the surviving Motor Minesweeping MMS 1556 and MMS 1579 were disposed of in 1960. and MMS 1632 and MMS 1654 are yard craft in Bombay.

BOOM DEFENCE VESSELS (*Netlayers*)



LAYBURN 1962, *Official*

2 "Lay" Class

LAYBURN **LAYMOOR**

Displacement:	*Circa* 800 tons *standard* (*circa* 1,050 tons *full load*)
Dimensions:	160 (*p.p.*), 192¾ (*o.a.*) × 34½ × 11½ feet
Machinery:	Steam reciprocating. 2 shafts. I.H.P.: 1,300=14 kts.
Boilers:	2 forced draught Foster Wheeler "D" type.
Complement:	2 officers, 29 ratings (*Laymoor*); 2 officers, 34 ratings (*Layburn*)

General Notes

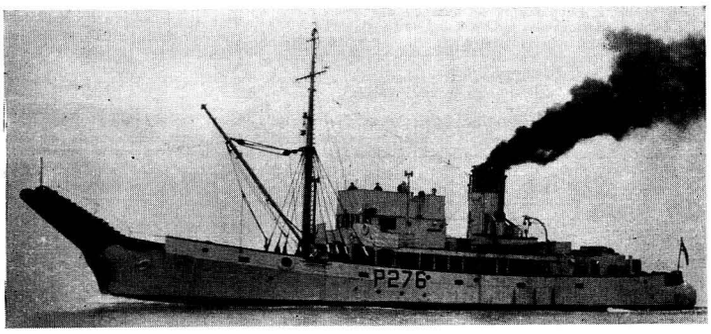
Both built by Wm. Simons & Co. Ltd., (Simons-Lobnitz Ltd.) The first boom defence vessels to be designed and built since the Second World War. *Laymoor* is the first and the "name" ship of her class, which will eventually replace the wartime built "Bar" class which are of similar size. *Layburn*, which cost £565,000, was launched on 14 Apr. 1960 and completed on 7 July 1960. *Laymoor*, which cost £562,000, was launched on 6 Aug. 1959 and accepted by the Royal Navy on 9 Dec. 1959. In addition to minor salvage work and the towing of net sections, she can lay and maintain the latest types of underwater and surface boom defences, first class moorings and navigational buoys. Accommodation on board was designed for either naval or civilian manning, and includes separate sleeping and dining spaces. Their lifting capacity is very much greater than that of their predecessors, and improvements in the standards of accommodation enable them to be comfortably operated both in the tropics and in cold climates.

Engineering Notes

The main machinery arrangement consists of two forced draught Foster Wheeler "D" type boilers, sited in line astern and fired from the centre position, working at 200 lb. per square inch pressure and each capable of evaporating 26,000 lbs. per hour; and a steam reciprocating main engine with three cylinders, the diameters being 14¾ inches, 25 inches and 44 inches, and the stroke 24 inches, designed to develop 1,300 indicated horsepower.

Photograph Notes

A photograph of *Laymoor* appears in the 1960-61 and 1961-62 editions.



BARBASTEL 1959, *Wright & Logan*

34 "Bar" Class

3 *Ardrossan Dockyard Co. Ltd., Ardrossan*		
BARBECUE	19 Dec.	1944
BARCAROLE	14 Mar.	1945
BARTIZAN	20 May	1943
5 *Blyth D. D. & S. B. Co.*		
BARBAIN	8 Jan.	1940
BARBICAN	14 Mar.	1938
BARCLOSE	9 July	1941
BARNEHURST	21 Oct.	1939
BARNSTONE	25 Nov.	1939
4 *Ferguson Bros. Ltd., Port Glasgow*		
BARHILL	26 Nov.	1942
BARKIS	29 Mar.	1945
BARSPEAR	25 Mar.	1943
BARWIND	22 Sep.	1943
2 *Hall Russell & Co. Ltd., Aberdeen*		
BARRAGE	2 Dec.	1937
BARRANCA	18 Jan.	1938
1 *Charles Hill & Sons Ltd., Bristol*		
BAROVA	5 July	1941
5 *John Lewis & Sons Ltd., Aberdeen*		
BARFIELD	28 July	1938
BARFOOT	25 Sept.	1942
BARGLOW	9 Nov.	1942
BARLEYCORN	6 Mar.	1943
BARNARD	1 July	1942
3 *Lobnitz & Co. Ltd., Renfrew*		
BARCLIFF (ex-*Barwick*)	10 May	1940
BARKING	23 Sep.	1941
BARNDALE	30 Nov.	1939
2 *Philip & Son Ltd., Dartmouth*		
BARBASTEL	26 July	1945
BARFOIL	18 July	1942
9 *Wm. Simons & Co. Ltd., Renfrew*		
BARBOURNE	4 May	1942
BARFOAM	8 Sep.	1941
BARFOSS	17 Feb.	1942
BARFOUNT	5 Jan.	1942
BARMOND	24 Dec.	1942
BARMOUTH	11 Oct.	1938
BARNABY	8 Mar.	1943
BARRHEAD	17 Oct.	1940
BARRINGTON	15 Nov.	1940

Displacement:	750 tons *standard* (919 to 1,000 tons *full load*)
Dimensions:	150 (*pp.*), 173¾ (*o.a.*), 182 (*horns*) × 32½ × 9½ (11½ *max.*) feet
Guns:	1—3 inch AA. (war). No guns in peacetime.
Machinery:	Triple expansion. I.H.P.: 850 11·75 kts. Sea speed 9 kts.
Boilers:	2 S.E. (200 lbs. per sq. in.)
Complement:	32
Fuel:	214 tons coal

General Notes

Built under the 1935, 1936, 1937, 1939 and Second World War Estimates. These vessels have a bow lift of 27 to 70 tons. Launch dates are given after their names above. *Barnehurst* was returned from the Royal Netherlands Navy in 1955. *Barglow* was brought forward from reserve in 1951 and manned by a civilian crew to survey wrecks in the Dover Straits. Second World War losses: *Barflake*, *Barlight*.

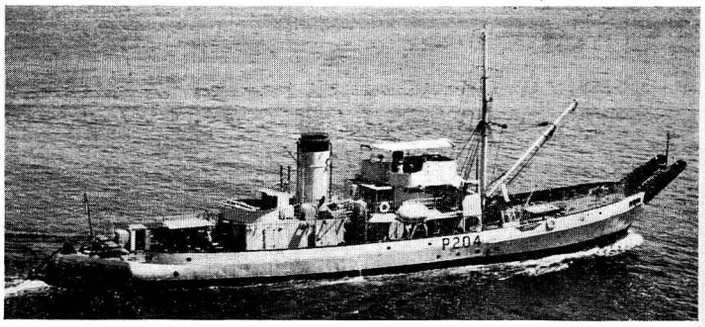
Photograph Notes

Photographs of *Barfoss* in the 1957-58 edition, and of *Barndale* in the 1951-52 to 1957-58 editions.

Class Notes

Barilla and *Barndale* were used for Ship Target Trials in 1949-50. *Barstoke* was transferred to Burma (on loan to the Rangoon Port Commission since 1946) but was returned to the Royal Navy at the end of 1959 at Singapore and put up for sale in 1960. *Barbour*, *Bardell* and *Barricade* were discarded.

Boom Defence Vessels—*continued*



BARHILL 1958, *A. & J. Pavia*

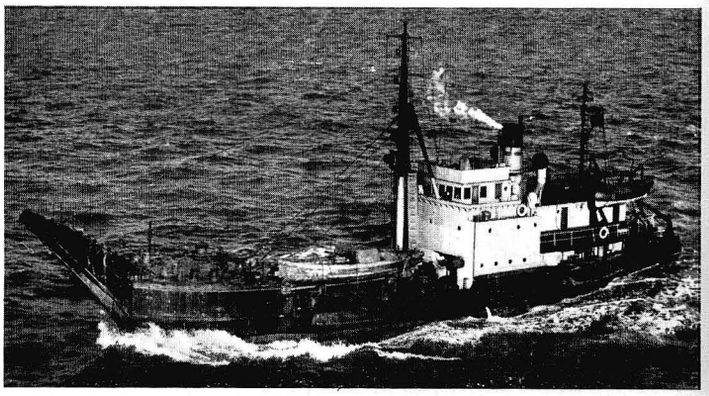
"Bar" Class—*continued*

Transfer Notes

Two of this class were transferred to the South African Naval Force, and three to the Turkish Navy. *Barcock* was on charter to Belgium, but was returned to the Royal Navy on 24 Aug. 1949. *Baron* was transferred to Ceylon in 1958 (purchased by the Colombo Port Commission).

Recent Disposals

Barberry, *Barbrook*, *Barcombe*, *Barford*, *Baritone*, *Barlane*, *Barlow*, *Barmill*, *Barneath* and *Barnwell* were deleted from the Navy List in 1958. *Barilla* and *Baronia* were discarded in 1959, *Barholm* in 1960, *Barbette*, *Barbridge*, *Barcastle*, *Barcock*, *Barcote*, *Barcroft*, *Bardolf*, *Barlake*, *Barsing*, *Barsound*, *Barthorpe* and *Barrier* were for disposal in 1962. *Barranca* has also been earmarked for disposal.



MOORESS *Added* 1960

8 "Moor" Class

MOORESS **MOORFOWL** **MOORLAND**
MOORFLY **MOORGRIEVE** **MOORPOUT**
MOORHEN **MOORSMAN**

Displacement:	*Mooress*, *Moorfowl*, *Moorgrieve*, *Moorhen*, *Moorpout*,: 650 tons *standard* (900 tons *full load*); *Moorland*, 600 tons *standard* (800 tons *full load*)
Dimensions:	Larger group: 149 (*pp*), 159 (*o.a.*) *hull* × 30 × 12 feet (196 *o.a. horns*): Smaller group: 135 (*pp*), 145 (*o.a.*) *hull* × 30 × 12 feet
Machinery:	I.H.P.: 500=9 kts.

General Notes

Built in 1938-46. Displacement and dimensions vary from group to group. Employed as Boom Defence Vessels, Boom Working Vessels, Mooring Vessels and Salvage Vessel Fitted with salvage pumps, air compressors and diving equipment. *Moorsman* and *Moorpout* are of the large type built by H.M. Dockyard, Chatham. Most of the others, including *Moorcock* and *Moorland* were built by Goole Shipbuilding & Repair Co. Ltd

Photograph Notes

A photograph of *Moorhen* appears in the 1951-52 to 1959-60 editions.

Recent Disposals

Moordale was sold in 1961. *Moorburn*, *Moorcock*, *Moorfield*, *Moorfire*, *Moorgrass*, *Moorhill*, *Moormyrtle* and *Moorside* were for disposal in 1962.

EXPERIMENTAL TORPEDO TRIALS VESSEL

Ex-German Type

SAREPTA (ex-*Freida Peters*)

Displacement:	465 tons *standard*
Dimensions:	150 (*pp.*) × 30 × 12 feet
Tubes:	4—21 inch

General Notes

Ex-German vessel. Launched in 1920. Multi-purpose torpedo experimental vessel, torpedo-firing ship, and torpedo recovery vessel. Reclassified as TRV in 1956, but not numbered.

Photograph Notes

A photograph of *Sarepta* appears in the 1951-52 to 1957-58 editions.

Torpedo Recovery Notes

TRV1, *TRV3*, *TRV4*, *TRV6*, *TRV8* and *TRV20* (ex-*MMS* 1510) were also employed as torpedo recovery vessels. The tender *Dwarf*, see below is used as a tordepo recovery vessel.

TENDERS

ICEWHALE

Displacement:	350 tons
Dimensions:	120 × 24 × 9 feet
Machinery:	Speed=9 kts.
Complement:	12 (Master, Mate and 10 ratings)

Notes

Trials vessel. Tender to the Underwater Detection Establishment at Portland.

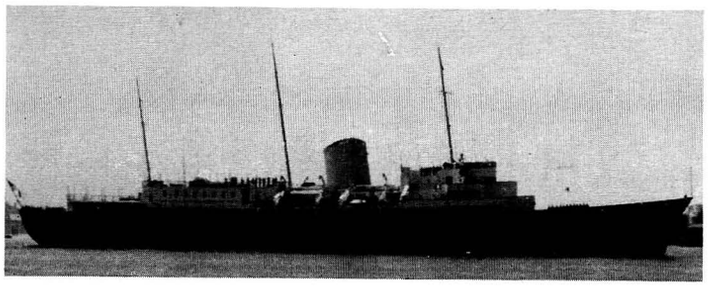
DWARF

Displacement:	172 tons
Dimensions:	83¼ (*pp.*), 91 (*o.a.*) × 19 × 6½ (*mean*), 7 (*max.*) feet
Machinery:	2 sets triple expansion. I.H.P.: 350=9·25 kts.
Boiler:	1 cylindrical
Coal:	16 tons

Notes

Built by Philip & Son, Ltd., Dartmouth. Launched in 1936. Tender to Third Submarine Flotilla at Faslane. Employed as a Torpedo Recovery Vessel.

ROYAL YACHT



BRITANNIA 1960, *Keith Long*

BRITANNIA

Displacement:	3,990 tons *light* (4,961 tons *full load*)
Measurement:	5,769 tons *gross*
Dimensions:	Length: 360 feet (*pp.*), 380 feet (*w.l.*), 412½ feet (*o.a.*). Beam: 55 feet. Draught: 15⅞ (*mean* at load), 17 (*max.*) feet
Machinery:	Single reduction geared steam turbines. 2 shafts. S.H.P.: 12,000=21 kts. (*approx.*) continuous cruising speed. 22.75 kts. *max.*. (trials)
Boilers:	2
Radius:	2,100 miles at 20 kts., 2,400 miles at the economical speed of 18 kts., 3,000 miles at 15 kts.
Oil fuel:	330 tons (can be increased to 490 tons with auxiliary fuel tanks)
Complement:	271

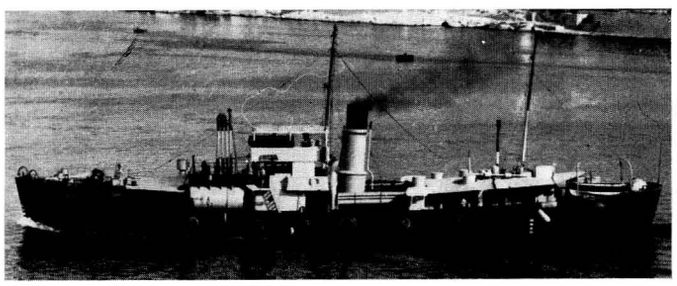
General Notes

This vessel was designed as a medium sized naval hospital ship to be used by Her Majesty The Queen in time of peace as a Royal Yacht. Pennant No. A 00. Built by John Brown & Co. Ltd., Clydebank. Ordered in Feb. 1952. Laid down on 16 June 1952. Launched on 16 Apr. 1953. Completed on 14 Jan. 1954. She has endurance sufficient to enable her to undertake long ocean voyages, modified cruiser stern, and raked bow. Her construction conforms to mercantile practice. The complete bridge structure is constructed of aluminium, and the funnel is also of aluminium. The ship is fitted with Denny-Brown single fin stabilisers to reduce roll in bad weather from 20 deg. to 6 deg. Cost £2,098,000. To enable her to pass under the bridges of the St. Lawrence Seaway when she visited Canada, the top 20 feet of her mainmast and the wireless aerial on her foremast were hinged in Nov. 1958 so that they can be lowered as required. Her two 3-pdr. saluting guns were removed.

Photograph Notes

Larger aerial photographs in the Addenda of the 1958-59 edition and in the 1959-60 edition.

TRAWLERS



SKOMER 1962, *A. & J. Pavia*

8 " Isles " Class
(Oil Tank Cleaning Vessels)

2 *Ardrossan Dockyard Co. Ltd., Ardrossan*

COLL	7 Apr.	1942
GRAEMSAY	3 Aug.	1942

2 *Cook, Welton & Gemmel Ltd. Beverley*

BERN	2 May	1942
LUNDY	29 Aug	1942

1 *A. & J. Inglis Ltd., Glasgow*

SWITHA	3 Apr.	1942

3 *John Lewis & Sons Ltd., Aberdeen*

CALDY	31 Aug.	1943
FOULNESS	23 Mar.	1943
SKOMER	17 June	1943

Displacement:	560 tons *standard* (770 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*) × 27½ × 14 feet
Guns:	3—20 mm. (Removed from ships used for tank cleaning)
Machinery:	Triple expansion. 1 shaft. 1 H.P.: 850 = 12 kts.
Boiler:	1 cylindrical
Coal:	183 tons
Radius:	4,200 miles at 8 kts.

General Notes

Launch dates above. *Bardsey*, *Bern*, *Caldy*, *Coll*, *Foulness*, *Graemsay*, *Lundy*, *Skomer* and *Swithe* were converted to tank cleaning vessels which are classed as auxiliaries and have " A " pennant numbers. *Bardsey* was taken over by Bailey's, Malta Dockyard. For transfers, disposals and other particulars of " Isles " class trailers see 1961-62 edition.

Photograph Notes

A larger photograph of *Graemsay* appears in the 1959-60 to 1961-62 editions.

1 "Shakespearian" Class

ROSALIND

Displacement:	545 tons *standard* (770 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*) × 27⅞ × 11 feet
Guns:	1—4 inch AA., 2—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 950=12 kts
Boiler:	1 cylindrical
Fuel:	180 tons coal
Radius:	4,000 miles at 8 kts.
Complement:	50

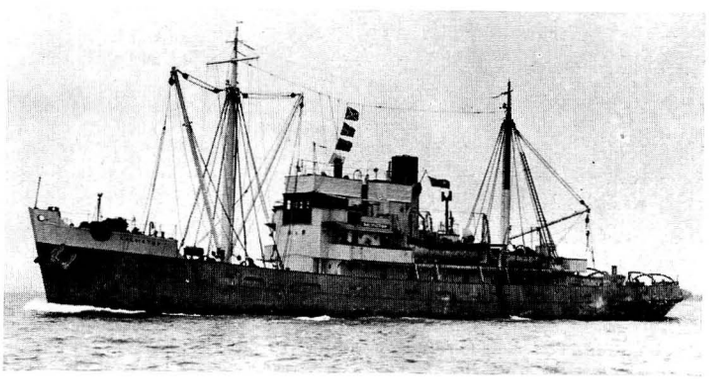
General Notes

Pennant No. P 05. Built by A. & J. Inglis Ltd., Glasgow. Engined by Aitchison Blair Ltd. Laid down on 10 Oct. 1940. Launched on 3 May 1941. Completed on 18 Oct. 1941. Officially classified as a minesweeping trawler. At Mombasa. On loan to the Royal East African Navy as a training ship, but is now nearing the end of her useful life, and is for disposal following the disbandment of the Royal East African Navy.

Photograph Notes

Photograph of *Rosalind* in the 1955-56 to 1957-58 editions and in the East Africa section of this edition (see page 67).

OCEAN SALVAGE VESSELS



SALVICTOR *Added 1960, Wright & Logan*

6 " Salv " Class

PRINCE SALVOR	**SALVESTOR**	**SALVIGIL**
SALVALOUR	**SALVICTOR**	**SEA SALVOR**

Displacement:	1,440 tons *standard* (1,700 tons *full load*)
Dimensions:	200¼ (*pp.*), 216 (*o.a.*) × 37¾ × 13 (*max.*) feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,500=12 kts.
Oil fuel:	310 tons
Complement:	52 to 72

General Notes

Ocean salvage vessels classed as Royal Fleet Auxiliaries. All launched in 1942-45. *Prince Salvor*, *Salvalour* and *Sea Salvor*, Pennant No. A 503, were built by Goole Shipbuilding & Repair Co. Ltd., and launched on 8 Mar. 1943, 2 Nov. 1944 and 22 Apr. 1942, respectively. *Salvestor*, *Salvictor* and *Salvigil* were built by Wm. Simons & Co. Ltd., Renfrew, and launched on 28 Aug. 1942, 11 Mar. 1944 and 30 Apr. 1945, respectively.

Transfer Notes

Salventure is on loan to Greece. *Prince Salvor*, *Salvalour*, *Salvigil* and *Salveda* are on charter to private firms.

Class Notes

King Salvor was converted to a submarine rescue bell ship in 1953-54 and renamed *Kingfisher*; and was sold to Argentina in Dec. 1960, sailing to Argentina in Apr. 1961 under the new name *Tehuelche*. *Salvage Duke*, formerly on charter to Turkish Salvage Administration (renamed *Imroz*), was gutted by fire in 1959.

Recent Disposals

Ocean Salvor and *Salviola* were disposed of in 1960.

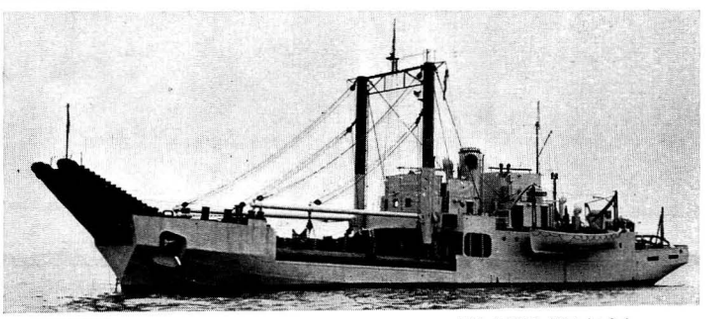
SALVEDA

Displacement:	1,250 tons *standard* (1,360 tons *full load*)
Dimensions:	184 (*pp.*), 194 (*o.a.*) × 34½ × 11¼ (*mean*) feet
Guns:	4—20 mm.
Machinery:	H.P.: 1,200=12 kts.
Oil fuel:	150 tons
Complement:	62

Notes

Built by Cammell Laird & Co. Ltd., Birkenhead, and launched on 9 Feb. 1943. Royal Fleet Auxiliary ocean salvage vessel on charter to Metal Industries Ltd.

COASTAL SALVAGE VESSELS



UPLIFTER *Added 1960, Wright & Logan*

6 " Kin " Class

KINBRACE	**KINLOSS**	**SWIN**
KINGARTH	**SUCCOUR**	**UPLIFTER**

Displacement:	950 tons *standard* (1,050 tons *full load*)
Measurement:	775 tons gross, 261·6 tons register
Dimensions:	150 (*pp.*), 179¼ (*o.a.*) × 35¼ × 9¼ (*mean*), 12 (*max.*) feet
Machinery:	Triple expansion. 1 shaft. I.H.P.: 600=9 kts.
Boilers:	1 return tube cylindrical (30 ton)
Complement:	34

General Notes

Coastal salvage vessels. Equipped with horns and heavy rollers. Can lift 200 tons dead weight over the bow. *Uplifter*, built by Smith's Dock Co. Ltd., is the only salvage vessel wearing the White Ensign. She was laid down on 13 Feb. 1943, launched on 29 Nov. 1943, and completed on 6 Apr. 1944. *Dispenser* is on charter to Liverpool & Glasgow Salvage Association. Remaining ships are Royal Fleet Auxiliaries wearing the Blue Ensign. *Kingarth* wore the White Ensign on 1957, Pennant No. A 232.

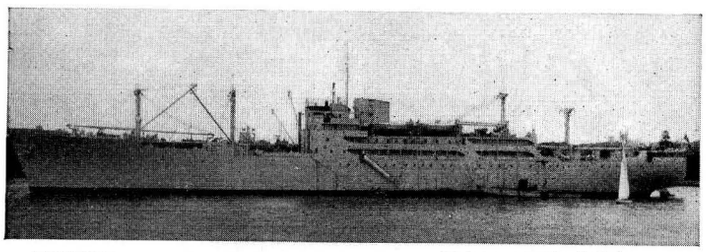
Photograph Notes

Photograph of *Kingarth* in the 1959-60 and earlier editions. Photograph of *Swin* in the 1956-57 and earlier editions.

Recent Disposals

Help was disposed of and *Lifeline* was also on the disposal list in 1960.

FLEET SUPPLY SHIPS



RELIANT 1960, *courtesy Mr. J. C. Jeremy*

1 Air Victualling Store Support Ship

RELIANT (ex-*Somersby*)

Displacement:	13,730 tons
Measurement:	9,290 tons *deadweight* (summer)
Dimensions:	468 5/12 (*o.a.*) × 61½ × 26¼ feet
Machinery:	Doxford Diesel by Hawthorn Leslie. B.H.P.: 8,250=18 kts.
Complement:	110 officers and men

General Notes

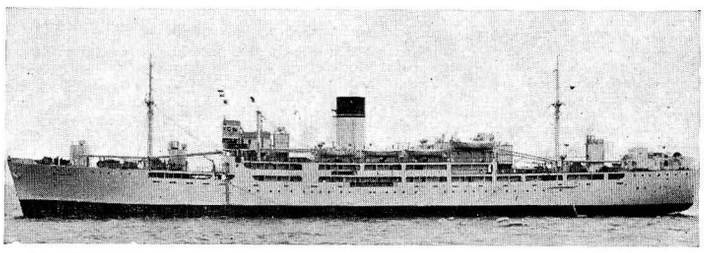
Built by Sir James Laing & Sons Ltd., Sunderland. Completed in 1954. Formerly a grain carrier which traded for two years, working between the Gulf of Mexico and the United Kingdom, before she was purchased by the Admiralty from the Ropner Shipping Company and converted for her new role at North Shields. Sailed from Chatham on 4 Nov. 1958 for the Far East to take up duty as the Royal Navy's first air-stores issuing ship capable of replenishing aircraft carriers at sea. She has an endurance of 50 days' steaming at 16 knots, and carries 40,000 different patterns of aircraft spares and general naval stores. She has six holds and the latest automatic tensioning winch for transfer of stores to aircraft carriers in unfavourable weather. She is fully air-conditioned for service in the tropics. Her conversion was based on the concept that aircraft carriers should be able to spend more time at sea, independent of shore bases. Rated as a Royal Fleet Auxiliary. Originally named *Somersby*. Renamed *Reliant* in 1958. Pennant No. A84.

Photograph Notes

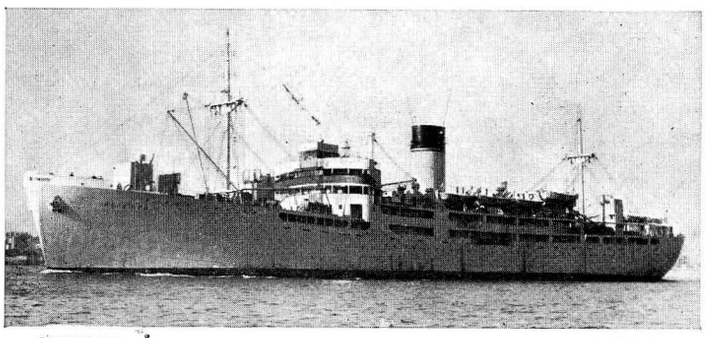
A larger, starboard bow, view of *Reliant* appears in the 1959-60 edition.

Helicopter Notes

As refitted *Reliant* has a helicopter landing platform built over the poop deckhouse with netting surrounds.



RESURGENT 1960 *Official*



RETAINER *Added* 1960, *Wright & Logan*

2 Fleet Replenishment Ships

RESURGENT (ex-*Changchow*) **RETAINER** (ex-*Chungking*)

Displacement:	14,000 tons (approx.) official estimate
Measurement:	*Resurgent*, 9,403 tons *gross*. *Retainer*, 9,393 tons *gross*
Dimensions:	477¼ (*o.a.*) × 62¾ × 25 (29 *max.*) feet
Machinery:	Diesel. 1 shaft. B.H.P.: 6,500

General Notes

Former passenger and cargo motor vessels, both built for China Navigation Co. by Scott's Shipbuilding and Engineering Co., Greenock, completed in 1951 and 1950, respectively. *Retainer* was formerly a passenger and cargo liner working along the China coast. Purchased by Admiralty in 1952 and converted into a naval storeship during autumn 1954-April 1955 by Palmers Hebburn Co. Ltd., where further conversion was carried out Mar-Aug. 1957 (originally scheduled for Sep. 1956-early 1957, but postponed) to extend her facilities as a stores ship, including the fitting out of holds to carry naval stores, the installation of lifts to remove such stores, the provision of extra cargo handling gear and new bridge wings. *Resurgent* was taken over by Admiralty on completion for employment as a fast fleet replenishment ship. Classed as Royal Fleet Auxiliaries. Pennant Nos. A280 and A329, respectively.

Photograph Notes

A larger, port bow, view of *Retainer* appears in the 1955-56 to 1959-60 editions; and a larger starboard broadside view of *Resurgent* appears in the 1959-60 edition.

2 "Bacchus" Class

BACCHUS **HEBE**

Measurement:	4,960 tons *gross*, 2,500 tons *net*, 4,730 tons *deadweight*
Dimensions:	350 (*pp.*), 379 (*o.a.*) × 55 × 21 (*max.*) feet
Machinery:	Swan Hunter Sulzer diesels. 1 shaft. B.H.P.: 5,500=15 kts.
Complement:	57

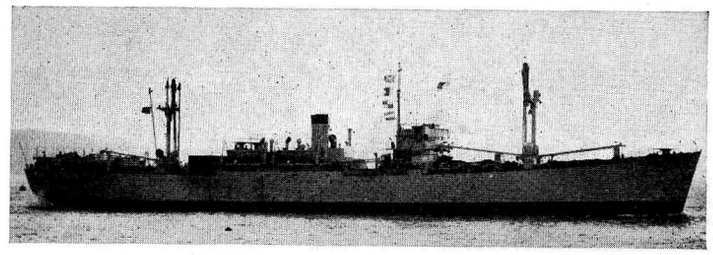
General Notes

Built by Henry Robb Ltd., Leith, for the British India Steam Navigation Co. Taken over by the Admiralty on completion on long term bare boat charter and operated as Royal Fleet Auxiliaries. Rated as store carriers. *Bacchus* was completed in Sep. 1962 and *Hebe* in May 1962. All crew accommodation and engines aft as in tankers.

Recent Disposals

The former *Bacchus* (1936) was disposed of in 1962 at Singapore. Of the surviving aircraft transports (see page 289, 1961-62 edition, *Skua* is for disposal in 1962, and *Blackburn* is a hulk tender for the Clyde Division, R.N.R.

Fleet Supply Ships—*continued*



FORT DUNVEGAN 1960, *Tom Molland Ltd.*

8 "Fort" Class

FORT BEAUHARNOIS **FORT DUNVEGAN** **FORT ROSALIE**
FORT CHARLOTTE **FORT DUQUESNE** **FORT SANDUSKY**
FORT CONSTANTINE **FORT LANGLEY**

Displacement:	9,788 tons
Dimensions:	424½ × 57 × 27 feet
Machinery:	Triple expansion. I.H.P.: 2,500=11 kts.
Boilers:	2 Babcock & Wilcox

General Notes

All launched in 1944. *Fort Beauharnois* and *Fort Constantine* are Store Carriers; *Fort Charlotte*, *Fort Dunvegan* and *Fort Duquesne* (helicopter landing platform aft) are Naval Store and Victualling Store Issuing Ships. *Fort Langley*, *Fort Rosalie* and *Fort Sandusky* are Armament Store Issuing Ships. These ships are Royal Fleet Auxiliaries, except for *Fort Langley*, which was officially listed as a Merchant Fleet Auxiliary. They are similar in type to the Maintenance Ships of the "Mull" and "Head" classes, see earlier page. *Fort Beauharnois* is to be laid up and *Fort Constantine* may be disposed of in the near future.

Photograph Notes

A larger, port bow, photograph of *Fort Duquesne* appears in the 1953-54 to 1958-59 editions, and a larger starboard broadside view of *Fort Dunvegan* appears in the 1959-60 edition.

STORE CARRIERS

THOMAS GRANT

Displacement:	409 tons
Dimensions:	113½ × 25½ × 10 feet
Machinery:	2 diesels. Speed=9 kts.

Notes

Completed in 1953. Built by C. Hill. Photograph of *Thomas Grant* in 1957-58 and earlier editions. Turned over to the Port Auxiliary Service in 1959 under Dockyard administration.

ROBERT DUNDAS (28 July 1938) **ROBERT MIDDLETON** (29 June 1938)

Displacement:	900 tons *light* (1,900 tons *full load*)
Measurement:	1,000 tons *deadweight*
Dimensions:	210 (*pp.*) × 35 × 13¼ (*mean*) feet
Machinery:	Atlas Polar Diesel. 1 shaft. B.H.P.: 960=10·5 kts.
Oil fuel:	60 tons
Complement:	17

Notes

Both built by Grangemouth Dockyard Co. Ltd. Machinery by British Auxiliaries Ltd. Govan. Launch dates above.

FAST FLEET REPLENISHMENT OILERS

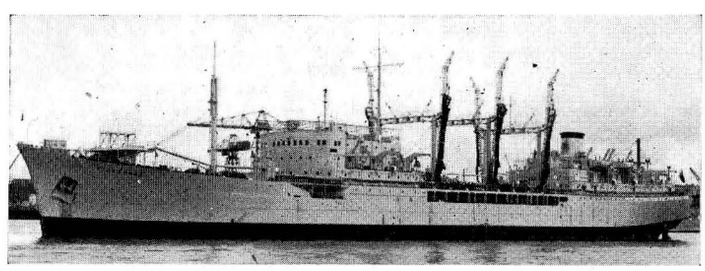
2 New Construction

TIDESPRING **TIDEPOOL**

Measurement:	13,100 tons *gross*
Dimensions:	550 (*pp.*), 583 (*o.a.*) × 71 × 32 feet
Machinery:	Double reduction geared turbines. Speed=17 kts.
Complement:	110

Notes

Two fleet replenishment tankers for the Admiralty are being built by Hawthorn Leslie (Shipbuilders), Hebburn. Steam machinery is being built and installed by the associated engine works of Hawthorn Leslie (Engineers) Ltd. They will be highly specialised ships for the fuelling and storing of naval vessels at sea and will be capable of high performances under rigorous service conditions. Their all-round capability will be enhanced by the provision of a helicopter landing platform and hangar. *Tidespring* was laid down on 24 July 1961 and launched on 3 May 1962, and *Tidepool* was laid down on 4 Dec. 1961.



TIDESURGE 1962, *courtesy Godfrey H. Walker Esq.*

3 "Tide" Class

TIDEFLOW (ex-*Tiderace*) **TIDESURGE** (ex-*Tiderange*) **TIDEREACH**

Displacement:	15,000 tons (26,000 tons *full load*)
Measurement:	17,700 tons *deadweight*, 11,200 tons *gross*.
Dimensions:	550 (*pp.*), 583 (*o.a.*) × 71 × 32 (*max*). feet
Machinery:	Double reduction geared turbines. S.H.P.: 15,000=17 kts.

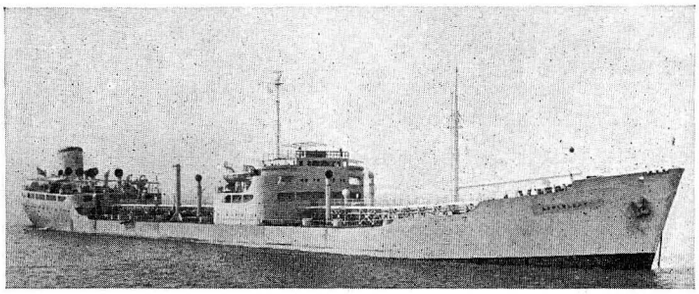
General Notes

Tidereach, launched by Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne, on 2 June 1954, and completed on 30 Aug. 1955, was the first of the Admiralty's new class of Fleet Replenishment Tankers. The main machinery was manufactured by the Wallsend Slipway Company. Designed for the support of the Fleet and the replenishment of its supplies under way at sea. Fast, capacious (15,000 tons of fuel cargo) and fitted with the most modern handling gear for transferring food, stores, ammunion, oil and jet aircraft fuels by jackstay and derricks to ships needing them. Oil cargo can be discharged at high rate to ships on either beam or astern, while steaming at high speed. *Tiderange* renamed *Tidesurge* in 1958), was launched at Sir James Laing & Son Ltd., Sunderland, on 1 July 1954. *Tiderace* (renamed *Tideflow* in 1958) was launched at J. L. Thompson & Sons Ltd., Sunderland on 30 Aug. 1954, the main machinery of both being manufactured by North Eastern Marine Engineering Co. Ltd., Wallsend-on-Tyne. A fourth ship, the *Tide Austral*, was built for Australia, but operated under Admiralty control until 1962 when she was taken over by the Royal Australian Navy and renamed *Supply* on 7 Sep.

Photograph Notes

Photograph of *Tidereach* in the 1959-60 and earlier editions.

OILERS



APPLELEAF 1959, *Official*

7 "Leaf" Group

APPLELEAF (ex-M.V. *George Lyras*)

Measurement: 16,850 tons *deadweight*, 11,588 tons *gross*, 6 559 tons *net*
Dimensions: 577$\frac{7}{12}$ (*o.a.*)×68×29$\frac{5}{6}$ mean summer draught
Machinery: Diesel. Speed=14 kts.

Notes
The M.V. *George Lyras*, built by Bartram & Co. Ltd. and formerly owned by Marine Enterprises Ltd., was taken over by the Admiralty on 17 Apr. 1959 on a long term bareboat charter for service as a Royal Fleet Auxiliary and renamed R.F.A. *Appleleaf*, thus reviving the name of an R.F.A. oiler which served the Royal Navy in both World Wars and was scrapped at the end of the Second World War after 30 years of service.
The *Appleleaf* is the first of a number of 16,000-18,000 ton tankers being chartered by the Admiralty to replace the smaller "Dale" and "Wave" classes of R.F.A. freighting tankers.

BAYLEAF (ex-M.V. *London Integrity*)
BRAMBLE LEAF (ex-M.V. *London Loyalty*)

Measurement: 17,960 tons *deadweight*, 12,123 tons *gross*, 7,042 tons *net*
Dimensions: 556$\frac{3}{4}$ (*o.a.*)×71$\frac{1}{2}$×30 feet
Machinery: Diesel. Speed=14$\frac{1}{2}$ kts. (*Bayleaf*), 14 kts. (*Brambleaf*)

Notes
Both built by Furness S.B. Co. Ltd. Both from London & Overseas Freighters Ltd., 22 May 1959.

CHERRYLEAF (ex-M.V. *Laurelwood*)

Measurement: 18,560 tons *deadweight*, 12,402 tons *gross*, 7,338 tons *net*
Dimensions: 544 (*o.a.*)×72$\frac{3}{4}$×30$\frac{3}{4}$ mean summer draught
Machinery: Diesel. Speed=13$\frac{1}{4}$ kts.

Notes
Built by Sir J. Laing & Co. Ltd. From Molasses & General Transport Co. Ltd. 15 May, 1959.

ORANGELEAF (ex-M.V. *Southern Satellite*)

Measurement: 17,475 tons *deadweight*, 12,481 tons *gross*, 6,949 tons *net*
Dimensions: 556$\frac{5}{12}$ (*o.a.*)×71$\frac{5}{12}$×30$\frac{1}{2}$ mean summer draught
Machinery: Diesel. Speed=15 kts.

Notes
Built by Furness S.B. Co. Ltd. From South Georgia Co. Ltd. 25 May 1959.

PEARLEAF (launched on 15 Oct. 1959)

Displacement: 23,900 tons
Measurement: 18,045 tons *deadweight*, 12,139 tons *gross*, 7,216 tons *net*
Dimensions: 535 (*pp.*), 568 (*o.a.*)×71$\frac{3}{4}$×30 feet
Machinery: Rowan Doxford 6 cyl. diesels. B.H.P.: 8,800=15$\frac{3}{4}$ kts.

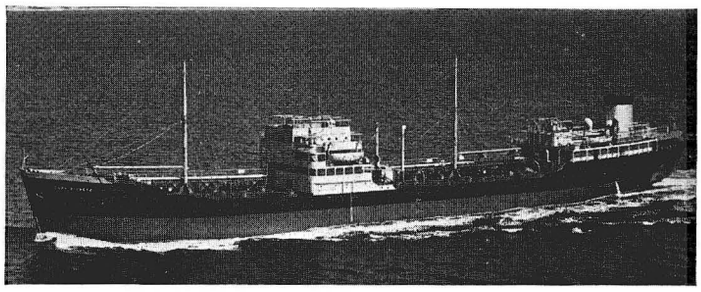
Notes
Built by Scotstoun Yard of Blythswood Shipbuilding Co. Ltd. for Jacobs and Partners Ltd., London. Chartered by the Admiralty on completion and operated as a Royal Fleet Auxiliary. Can carry three different grades of cargo.

PLUMLEAF

Displacement: 24,920 tons
Measurement: 18,900 tons *deadweight*, 12,500 tons *gross* (approx) *net*
Dimensions: 560$\frac{1}{2}$ (*o.a.*)×71$\frac{1}{2}$×30 feet
Machinery: North East Doxford 6 cyl. diesels. B.H.P.: 9,350=15$\frac{1}{4}$ kts.

Notes
Built by Blyth D. D. & Engineering Co. Ltd.

Photograph Notes
Photograph of *Bayleaf* in the 1959-60 edition (in the Addenda). Larger aerial view of *Appleleaf* (as *George Lyras*) in the 1959-60 edition.



SURF PIONEER *Skyfotos*

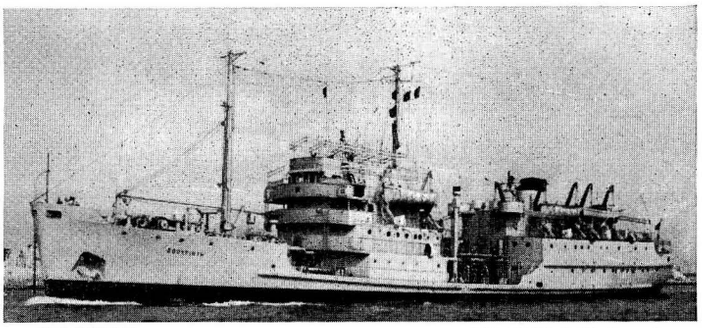
2 "Surf" Class

SURF PATROL (ex-*Tatry*, 7 Feb. 1951) **SURF PIONEER** (ex-*Beskidy*, 23 Apr. 1951)

Measurement: 7,600 tons *gross*, 11,000 tons *deadweight*
Dimensions: 445 (*pp.*)×60$\frac{1}{2}$×27$\frac{1}{2}$ (*max.*) feet
Machinery: Doxford 4-cyl. Diesels. B.H.P.: 4,250=13.75 kts.

Notes
Taken over by Great Britain whilst still under construction by Bartram's, Sunderland for Poland, at the time of the Korean War emergency. Launch dates above. Classed as Royal Fleet Auxiliaries. Both are now in reserve.

Oilers—*continued*



EDDYFIRTH *Added 1960, J. W. Kennedy*

8 "Eddy" Class

EDDYBAY (29 Nov. 1951)
EDDYBEACH (25 Apr. 1951)
EDDYCLIFF (25 Aug. 1952)
EDDYCREEK (19 Jan. 1953)
EDDYFIRTH (10 Sep. 1953)
EDDYNESS (22 Oct. 1953)
EDDYREEF (28 May 1953)
EDDYROCK (16 Dec. 1952)

Measurement: 2,157 to 2,300 tons *gross*, 2,095 tons *deadweight*
Dimensions: 270 (*pp.*), 286 (*o.a.*)×44×17$\frac{1}{2}$ feet
Machinery: 1 set triple expansion. 227 r.p.m. 1 shaft. I.H.P.: 1,750=12 kts.
Boilers: 2 oil burning cylindrical

General Notes
Fleet Attendant Oil Tankers. Launch dates above. Officially rates as Royal Fleet Auxiliaries. Single screw vessels built for the Naval Stores Department of the Admiralty. Constructed on the combined transverse and longitudinal system of framing and classed 100 Al at Lloyd's to their latest requirements for the carriage of petroleum in bulk. *Eddybay* (semi hulk) is on loan to the R.A.F. and *Eddycliff*, *Eddycreek* and *Eddyreef* are in reserve

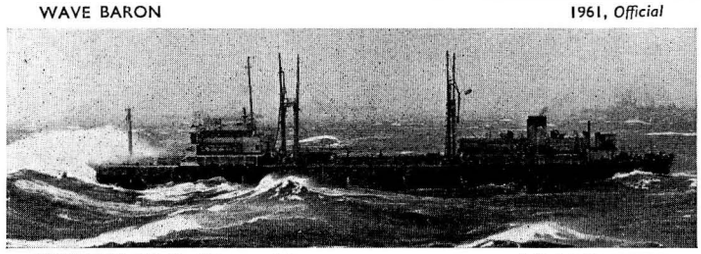
Engineering Notes
The main propelling machinery was built by Lobnitz & Co. Ltd., Renfrew for all ships of the class, boilers by Caledon Shipbuilding & Engineering Co. Ltd., Dundee.

Photograph Notes
Photograph of *Eddycliff* in the 1959-60 edition. Photograph of *Eddybeach* in the 1958-59 and earlier editions.

Name	*Builders*	*Completed*
Eddybay	Caledon Shipbuilding & Engineering Co. Ltd., Dundee	19 Nov. 1951
Eddybeach	Caledon Shipbuilding & Engineering Co. Ltd., Dundee	25 Apr. 1951
Eddycliff	Blythswood Shipbuilding & Engineering Co. Ltd., Scotstoun	10 Feb. 1953
Eddycreek	Lobnitz & Co. Ltd., Renfrew	11 Sep. 1953
Eddyfirth	Lobnitz & Co. Ltd., Renfrew	10 Feb. 1954
Eddyness	Blyth Dry Docks & Shipbuilding Co. Ltd., Blyth	11 Oct. 1954
Eddyreef	Caledon Shipbuilding & Engineering Co. Ltd., Dundee	23 Oct. 1953
Eddyrock	Blyth Dry Docks & Shipbuilding Co. Ltd., Blyth	7 June 1953



WAVE BARON 1961, *Official*



WAVE VICTOR (in 60 knot gale) *Added 1960, Official*

9 "Wave" Class

	Launched
3 *Furness S.B. Co. Ltd., Haverton Hill-on-Tees*	
WAVE BARON (ex-*Empire Flodden*)	19 Feb. 1946
WAVE RULER (ex-*Empire Evesham*)	17 Jan. 1946
WAVE SOVEREIGN	20 Nov. 1945
1 *Harland & Wolff, Ltd. (Govan), Glasgow*	
WAVE CHIEF (ex-*Empire Edgehill*)	4 Apr. 1946
5 *Sir James Laing & Sons Ltd., Sunderland*	
WAVE DUKE (ex-*Empire Mars*)	16 Nov. 1944
WAVE KNIGHT (ex-*Empire Naseby*)	22 Oct. 1945
WAVE LAIRD (ex-*Empire Dunbar*)	3 Apr. 1946
WAVE MASTER (ex-*Empire Salisbury*)	20 May 1944
WAVE PRINCE (ex-*Empire Herals*)	27 July 1945

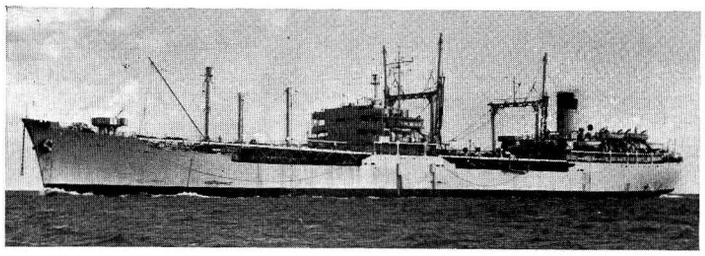
Displacement: 8,200 tons *standard* (16,476 to 16,485 tons *full load*)
Measurement: 11,900 tons *deadweight*
Dimensions: 465$\frac{1}{4}$ (*pp.*), 492$\frac{1}{2}$ (*o.a.*)×64$\frac{1}{2}$×28$\frac{1}{2}$ feet
Guns: Light AA. in wartime
Machinery: Double reduction geared turbines. S.H.P.: 6,800=15 kts.
Boilers: 3-drum type

General Notes
Classed as Royal Fleet Auxiliaries. Launch dates above. The turbines are of Metrovick type in *Wave Baron*, *Wave Chief*, *Wave Duke* and *Wave Laird*, and Parsons type in the others. *Wave Baron* and *Wave Prince* were refitted and modernised in 1961-62. *Wave Victor* is on loan to the Air Ministry as a hulk at Gan Island. *Wave Duke* and *Wave Laird* are in reserve and may be hulked.

Photograph Notes
Photograph of *Wave Premier* in the 1959-60 edition. Photograph of *Wave Master* in the 1959-60 and earlier editions. Photograph of *Wave Monarch* in the 1952-53 edition

Recent Disposals
Wave Commander and *Wave Liberator* were scrapped in 1959. *Wave Conqueror* and *Wave King* were sold in 1960 when *Wave Emperor*, *Wave Governor* and *Wave Premier* were also stricken from the list. *Wave Protector* was hulked at Malta. *Wave Regent* was broken up and *Wave Monarch* was sold to foreign interests, it was stated in 1961.

Oilers—*continued*



OLNA 1960 *Wright & Logan*

1 Large Type

OLNA

Displacement:	17,000 tons *standard* (25,096 tons *full load*)
Measurement:	17,500 tons *deadweight*
Dimensions:	550 (*pp.*), 583½ (*o.a.*) × 70½ × 32¾ feet
Guns:	1—4 inch AA., 4—40 mm. AA., 8—20 mm. AA. (in war time)
Machinery:	Turbo-electric. S.H.P.: 13,000 = 17 kts.
Boilers:	3 Babcock & Wilcox
Oil Fuel:	2,130 tons
Complement:	77

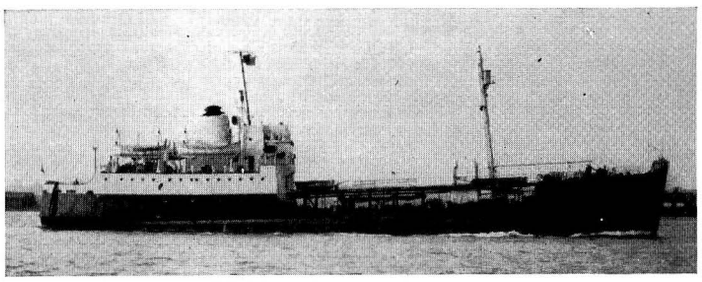
General Notes

Built by Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne. Launched on 28 Dec. 1944. Classed as a Royal Fleet Auxiliary. Rated as a Fast Fleet Replenishment Tanker. Guns are not mounted in peace time.

The ship has had her funnel considerably heightened with a smoke deflecting top.

Photograph Notes

A larger, port bow oblique aerial, view of *Olna* appears in the 1953-54 to 1959-60 editions.



TEAKOL *Added 1960, courtesy Dr. Ian Pearsall*

4 Later " OI " Class

BIRCHOL (19 Feb. 1946) **ROWANOL** (ex-*Cedarol*, ex-*Ebonol*, 15 May 1946)
OAKOL (28 Aug. 1946) **TEAKOL** (14 Nov. 1946)

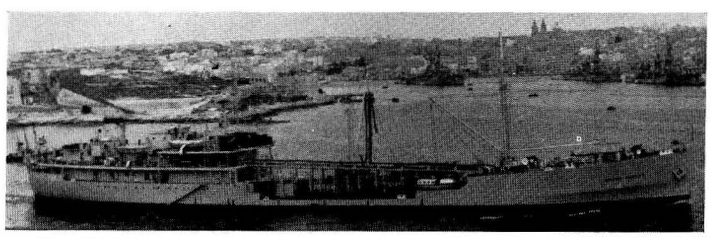
Displacement:	2,670 tons
Measurement:	1,050 tons *deadweight*
Dimensions:	218 (*pp.*), 232 (*o.a.*) × 39 × 15¾ feet
Machinery:	Triple expansion. I.H.P.: 1,140 = 11 kts.
Complement:	26

General Notes

All built by Lobnitz and Co. Ltd., Renfrew. Launch dates above. Classed as Royal Fleet Auxiliaries.

Photograph Notes

Photograph of *Oakol* in the 1959-60 edition. Photograph of *Rowanol* in the 1958-59 and earlier editions.



BROWN RANGER 1962, *A. & J. Pavia*

5 " Ranger " Class

2 *Caledon Shipbuilding & Engineering Co. Ltd., Dundee*

GOLD RANGER 12 Mar. 1941
GREEN RANGER 21 Aug. 1941

3 *Harland & Wolff Ltd.* (*Govan*), *Glasgow*

BLACK RANGER 22 Aug. 1940
BLUE RANGER 29 Jan. 1941
BROWN RANGER 12 Dec. 1940

Measurement:	3,313 to 3,417 tons *gross*
Dimensions:	First two, 339½ (*pp.*), 355½ (*o.a.*) × 47 × 20 feet; Other three, 349½ (*pp.*), 365¾ (*o.a.*) × 47 × 20 feet
Machinery:	Diesel. B.H.P.: 2,750 = 12 kts.

General Notes

Classed as Fleet Auxiliaries. Launch dates above. Funnel in these ships is on the port side. All are fitted with special derrick on the beam to facilitate fuelling at sea. Sister ship *Gray Ranger* (Caledon) was lost during the Second World War.

Green Ranger is laid up in reserve, and may be disposed of in the near future.

Photograph Notes

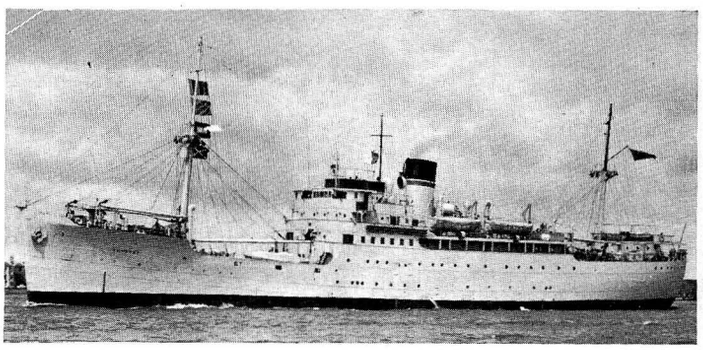
Photograph of *Brown Ranger* in the 1959-60 edition. *Black Ranger* is now painted grey overall, as is *Brown Ranger*.

Recent Disposals

Of the Later " Dale " class, *Ennerdale* was scrapped, *Easedale* was sold, and *Eaglesdale* was for disposal in 1959. All these three had steam reciprocating engines. *Cedardale*, *Derwentdale*, *Dewdale* and *Dingledale* were disposed of in 1960, and *Echodale* was in reserve in 1961, awaiting disposal.

Of the Early " Dale " class *Arndale*, *Bishopdale* and *Broomdale* were disposed of in 1960, and *Abbeydale* was for disposal in 1961. The five old oilers of the " OI " class *Belgol*, *Celerol*, *Fortol*, *Prestol* and *Serbol*, were all disposed of in 1958. The six old oilers of the smaller " OI " class, *Bozol*, *Elderol*, *Elmol*, *Larchol*, *Limol* and *Philol*, were all stricken from the Fleet Auxiliary List in 1959, and have been sold or otherwise disposed of. *War Hindoo*, used only as a hulk has been scrapped.

NAVAL ARMAMENT CARRIERS



AMHERST 1960, *Wright & Logan*

AMHERST

Displacement:	2,340 tons *light* (5,340 tons *full load*)
Measurement:	3,000 tons *deadweight*
Dimensions:	310 (*pp.*), 325 (*o.a.*) × 45 × 20¾ feet
Machinery:	Reciprocating. 1 shaft

Notes

Built by Blythswood Shipbuilding & Engineering Co. Ltd., Scotstoun. Pennant No. A 238. May be disposed of in the near future.

ENFIELD **MAXIM** **SNIDER**
GATLING **NORDENFELT**

Displacement:	604 to 663 tons
Measurement:	240 tons
Dimensions:	131½ to 144½ × 25 × 18 feet
Machinery:	Reciprocating (except *Chattenden*, diesel)
Complement:	13

Notes

All built by Lobnitz & Co. Ltd., Renfrew, except *Chattenden* completed by Richard's Iron Works, Lowestoft, 1944 (engined by Crossley). *Chattenden* was reduced to reserve in 1961 and is being used as dumb derrick lighter.

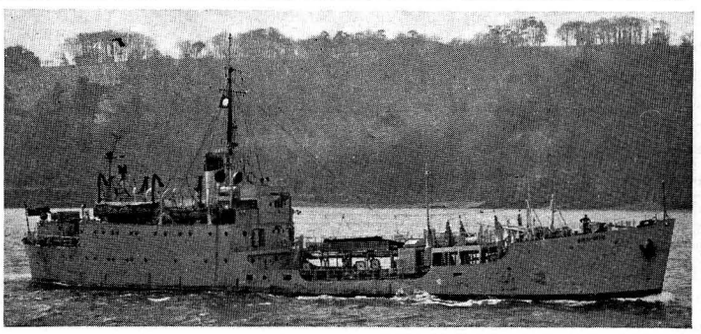
KINTERBURY **THROSK**

Displacement:	1,770 tons
Measurement:	600 tons *deadweight*
Dimensions:	199¾ × 34½ × 13 feet
Machinery:	Triple expansion. 1 shaft. I.H.P.: 900
Coal:	154 tons

Notes

Launched in 1943 and 1944, respectively. Both built by Philip & Son Ltd. Both of these vessels were converted in 1959 with hold stowage and a derrick for handling guided missiles for attending and servicing the guided weapons trails ship *Girdle Ness*. Photograph of *Throsk* in 1957-58 and earlier editions.

PETROL CARRIERS



AIRSPRITE 1961, *Tom Molland, Ltd.*

AIRSPRITE (22 Dec. 1942) **NASPRITE** (28 Nov. 1940)

Measurement:	965 tons *gross*
Dimensions:	204½ × 33½ × 12¾ feet
Machinery:	Triple expansion. I.H.P.: 900 = 11 kts.

General Notes

Both built by Blythswood S.B. Co. Launch dates above. *Airsprite* is officially rated as a Spirit Carrier.

Recent Disposals

The petrol carriers *Petrobus* and *Rippledyke* were sold in 1959-60.

MFVs

139 Motor Fishing Vessels ranging from Nos. 2 to 1574 are employed for various subsidiary duties in the Fleet and in the dockyards. They are of four types, viz:

MFV 2 to 436	Length: 61½ feet	64 in service
MFV 609 to 944	Length: 45 feet	31 in service
MFV 1004 to 1257	Length: 75 feet	37 in service
MFV 1526 to 1574	Length: 90 feet	7 in service

Notes

MFV 1044, 1069, 1156 are armed with 1—40 mm. Bofors forward (in place of mast) and 1—20 mm. Oerlikon an after superstructure. *MFV* 206 is at Kilindini (Royal East African Navy). *MFV* 1151, *Squirrel*, and *MFV* 1080, *Watchful*, were replaced as Fishery Protection Gunboats by an inshore minesweeper and a motor launch (replaced by an inshore minesweeper) with those names, see earlier pages.

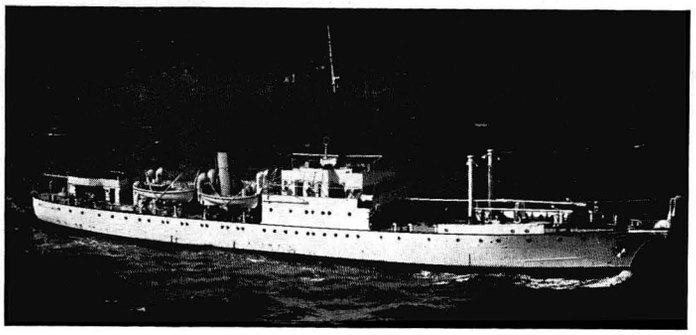
MFV 270, 2014 and 1564 were discarded in 1957. *MFV* 1161 was removed from the Navy List in 1959, and 56 others were stricken in 1960.

Recent Disposals of Tenders

The mining tenders *Nightingale* and *Vesuvious* were discarded in 1956. The Torpedo Recovery Vessel *Redwing* was discarded in 1957. The experimental trials vessel *Decibel* was discarded in 1957. The deep diving tender *Clearwater*, and the mine location tenders *Dipper* and *Diver*, were discarded in 1959.

The diving ship *Deepwater* (ex-German *Walter Holtzapfel*) was scrapped in 1960 towed from Portsmouth on 12 Sep. 1960 for breakers' yard at Southampton).

CABLE VESSELS



BULLFINCH *Added 1959, Skyfotos*

2 "Bull" Class

BULLFINCH (19 Aug. 1940) **ST. MARGARETS** (Oct. 1943)

Measurement:	1,524 tons *gross*
Dimensions:	252 (*o.a.*) × 36½ × 16½ (*mean*) feet
Guns:	1—4 inch, 4—20 mm. AA.
Machinery:	2 Reciprocating. Speed = 12 kts.

Notes

Admiralty cable ships classed as Royal-Fleet Auxiliaries. Both built by Swan, Hunter & Wigham Richardson Ltd. Launch dates above. *Bullfrog* and *Bullhead* of this type were transferred to Cable and Wireless service in 1947. A larger, port broadside, view of *Bullfinch* appears in the 1951-52 to 1957-58 editions.

Recent Disposal

The smaller cable vessel *Lasso* was disposed of at the end of 1959.

WATER CARRIERS

6 "Spa" Class

2 *Charles Hill & Sons Ltd.* 4 *Philip & Son*

SPALAKE (10 Aug. 1946) **SPA** (11 Oct. 1941) **SPABROOK** (24 Aug. 1944)
SPAPOOL (28 Feb. 1946) **SPABECK** (21 June 1943) **SPABURN** (5 Jan. 1946)

Displacement:	1,219 tons
Measurement:	500 tons *deadweight*
Dimensions:	160 (*pp.*), 172 (*o.a.*) × 30 × 12 feet
Machinery:	Triple expansion. I.H.P.: 675
Boiler:	1
Coal:	90 tons

Notes

Spabeck is now a spirit carrier (hydrogen peroxide fuel for "Ex" class submarines). A photograph of *Spalake* appears in the 1954-55 to 1957-58 editions.

14 "Fresh" Class

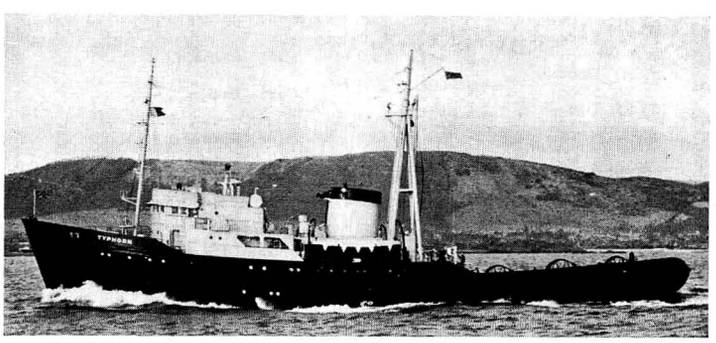
FRESHBROOK **FRESHFORD** **FRESHPOND** **FRESHSPRING**
FRESHBURN **FRESHLAKE** **FRESHPOOL** **FRESHTARN**
FRESHENER **FRESHMERE** **FRESHSPRAY** **FRESHWATER**
FRESHET **FRESHWELL**

Displacement:	594 tons
Dimensions:	126½ × 25½ × 10¾ (*max.*) feet
Machinery:	Triple expansion. I.H.P.: 450 = 9 kts.

Notes

Freshener, *Freshspray*, *Freshspring* and *Freshwater* have recently been converted from coal to oil-burning, it was officially stated in 1961. A photograph of *Freshpond* appears in the 1951-52 to 1953-54 editions.

FLEET TUGS



TYPHOON *1960, Official*

1 "Typhoon" Class

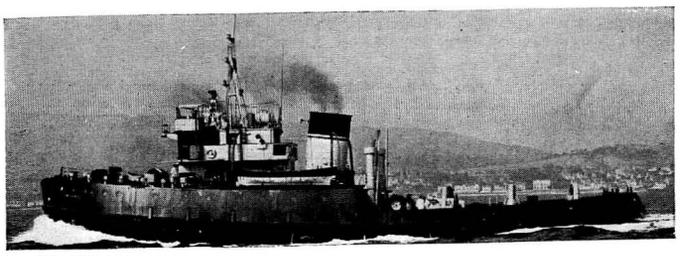
TYPHOON

Displacement:	800 tons (approx.) *standard* (1,380 tons *ful load*)
Dimension:	199 (*o.a.*), 180 (*pp.*) × 38½ × 13 feet
Machinery:	2 diesels. 1 shaft. Controllable pitch propeller. Speed: over 16 knots

Notes

The first of a new class of ocean tugs to be built for the Admiralty. Launched from the shipyard of Henry Robb & Co. Ltd., Leith, on 14 Oct. 1958. The class is an improved version of the "Bustler" tugs. Extensive tank tests were carried out by William Denny & Bros. Ltd., Dumbarton, before the design was developed by Henry Robb & Co. Ltd. The *Typhoon* is propelled by two diesel engines, manufactured by Vickers-Armstrongs Ltd., Barrow-in-Furness, geared to a single shaft with a controllable pitch propeller, which is an innovation for Admiralty ocean tugs. She is fitted with the latest equipment for fire fighting, salvage and ocean rescue, with a heavy mainmast and derrick attached. Completed in 1960.

Fleet Tugs—*continued*



CONFIANCE *1956*

2 "Con" Class

CONFIANCE (15 Nov. 1955) **CONFIDENT** (17 Jan. 1956)

Displacement:	760 tons (*loaded*)
Dimensions:	140 (*pp.*), 154¾ (*o.a.*) × 35 × 11 feet
Machinery:	4 Paxman diesels. 2 shafts. B.H.P.: 1,600 = 13 kts.
Complement:	29 + 13 salvage party

Notes

Built by A. & J. Inglis, Ltd., Glasgow. Launch dates above. *Confiance* completed 27 Mar. 1956. Fitted with 2,500 mm. diameter Stone Kamewa variable pitch propellers.

3 "Samson" Class

SAMSON (14 May 1953) **SEA GIANT** (2 June 1954) **SUPERMAN** (23 Nov. 1953)

Measurement:	850 tons *gross*
Dimensions:	180 × 37 feet
Machinery:	Triple expansion. 2 shafts

Notes

All built and engined by Alexander Hall & Co., Ltd., Aberdeen. Launch dates above. Photograph of *Samson* in 1957-58 and earlier editions.

4 "Nimble" Class

CAPABLE (Hall, Russell, 22 Nov. 1945) **EXPERT** (Fleming & Ferguson, 1944)
CAREFUL (A. Hall & Co. 23 Oct. 1945) **NIMBLE** (Fleming & Ferguson, 4 Dec. 1941)

Displacement:	890 tons (1,190 tons *full load*)
Dimensions:	165 (*pp.*), 175 (*o.a*) × 35¾ × 13¾ feet
Machinery:	Triple expansion. 2 shafts· I.H.P.: 3,500 = 16 kts.
Boilers:	2, of 3-drum type
Oil fuel:	300 tons

Notes

Capable was fitted experimentally with reversible pitch propellers.

4 "Envoy" Class

ENCORE (Dec. 1944) **ENIGMA** (June 1944)
ENFORCER (July 1944) **ENVOY** (Feb. 1944)

Displacement:	868 tons (1,332 tons *full load*)
Measurement:	762 tons gross
Dimensions:	174½ × 36 × 17 (*max.*) feet
Machinery:	Triple expansion. I.H.P.: 1,700 = 13 kts.
Boilers:	2 cylindrical
Oil fuel:	398 tons
Complement:	33

Notes

All built by Cochrane & Sons, Ltd., Selby. Launch dates above. In wartime these ships carried 1—3 inch AA. gun, 2—20 mm. AA guns, and 2 M.G. *Enticer* was lost 21 Dec. 1946.

7 "Bustler" Class

BUSTLER (4 Dec. 1941) **SAMSONIA** (1 Apr. 1942)
MEDIATOR (21 June 1944) **TURMOIL** (14 July 1944)
REWARD (13 Oct. 1944) **WARDEN** 28 June, 1945
WELSHMAN (ex-*Growler*. 10 Sep. 1942)

Displacement:	1,118 tons (1,630 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 41 × 13 (*mean*), 16 (*max.*) feet
Machinery:	2 Atlas Polar 8-cyl. Diesels. 1 shaft. B.H.P.: 4,000 = 16 kts.
Oil fuel:	405 tons
Range:	17,000 miles
Complement:	42

Notes

All built by Henry Robb, Ltd., Leith. Launch dates above. *Growler*, temporarily renamed *Caroline Moller*, while on long term charter, then renamed *Castle Peak*, was returned to R.F.A. service in 1957. Most of this class, including *Turmoil*, have been chartered by commercial undertakings. *Bustler* wears the Blue Ensign. Second World War loss *Hesperia*. Photograph of *Reward* in 1957-58 and earlier editions.

9 "Assurance" Class

ALLEGIANCE (Feb. 1943) **HENGIST** (Dec. 1941)
ANTIC (Mar. 1943) **JAUNTY** (June 1941)
CAUTIOUS (ex-*Prudent*, Aug. 1940) **PROSPEROUS** (June 1942)
EARNER (ex-*Ernest*, July 1943) **RESTIVE** (Sep. 1940)
SAUCY (Oct. 1942)

Displacement:	700 tons (1,055 tons *full load*)
Measurement:	597 tons *gross*
Dimensions:	157 × 35 × 10 feet
Machinery:	Triple expansion. I.H.P.: 1,350 = 12 kts.
Boiler:	1 cylindrical
Oil fuel:	262 tons
Complement	31

Notes

All built by Cochrane & Sons, Ltd., Selby. Launch dates above. In wartime these ships carried 1—3 inch AA. gun, 1—20 mm. AA. gun and 2 M.G. *Hengist* Pennant No. A 110. Second World War losses of the class were *Adept*, *Adherent* (original), *Assurance*, *Horsa* and *Sesame*. *Assiduous* was transferred to Ceylon in 1959, *Adherent* (the second) and *Tryphon* were disposed of in 1960. *Aligator* was sold in 1961.

Recent Disposals of "Brigand" Class

The sole survivor of the "Brigand" class, *Brigand*, was sold to a Genoese firm on 23 Sep. 1960. Sister ship *Buccaneer* was sunk on 25 Aug. 1946. *Briton* (ex-*Bandit*), *Freebooter* and *Marauder* were disposed of in 1960.

General Notes

There are a number of other tugs employed on harbour service and in H.M. Dockyards, including the new diesel-electric paddle tugs *Director*, *Dexterous*, *Faithful*, *Favourite*, *Forceful*, *Grinder* and *Griper*; the twinscrew diesel dockyard tugs *Accord*, *Adept*, *Agile* and *Advice*; the medium berthing tugs *Airedale* and *Alsatian* ("Dog" class); and the harbour berthing tugs *Agatha*, *Agnes*, *Alice* and *Audrey* ("Girl" class), all built by P. K. Harris & Sons Ltd., Appledore.

Also the small fleet servicing and naval harbour tugs *Empire Demon*, *Empire Fred*, *Empire Imp*, *Empire Netta*, *Empire Rosa*, *Empire Zona*, *Energetic* (ex-*Empire Edward*) and *Frisky* (ex-*Empire Rita*), not all of the same type. *Empire Plane* was sold in 1958.

LIST OF PENNANT NUMBERS

Note:—A few of the ships listed below are on the sales list or have been earmarked for disposal, but their pennant numbers have been retained in this edition for reference and identification until they are actually broken up ; and a few ships listed are not yet completed.

Aircraft Carriers, Cruisers, Minelayers, Headquarters Ships, etc., Destroyers, Frigates

R Flag Superior:

R 05 Eagle
R 06 Centaur
R 07 Albion
R 08 Bulwark
R 09 Ark Royal
R 12 Hermes
R 38 Victorious

C Flag Superior:

C 20 Tiger
C 24 Sheffield
C 34 Lion
C 35 Belfast
C 52 Bermuda
C 99 Blake

N Flag Superior:

N 11 Miner I
N 12 Gossamer
N 13 Miner III
N 14 Miner IV
N 16 Miner VI
N 17 Miner VII
N 18 Miner VIII
N 25 Stonechat
N 26 Plover
N 65 Ariadne
N 70 Manxman

A Flag Superior:

A 134 Rame Head
A 146 Protector
A 153 Ausonia
A 158 Duncansby Head
A 164 Adamant
A 185 Maidstone
A 187 Forth
A 191 Berry Head
A 194 Tyne
A 200 Vidal
A 219 Dodman Point
A 225 Mull of Kintyre
A 226 Mull of Galloway
A 231 Reclaim
A 262 Hartland Point
A 302 Dalrymple
A 303 Dampier
A 307 Cook
A 308 Scott
A 310 Shackleton
A 311 Owen
A 387 Girdle Ness

D Flag Superior:

D 01 Caprice.
D 02 Devonshire
D 05 Daring.
D 06 Hampshire
D 07 Caesar.
D 09 Dunkirk.
D 10 Cassandra.
D 12 Kent
D 15 Cavendish.
D 16 London
D 22 Aisne.
D 25 Carysfort.
D 30 Carron.
D 31 Broadsword.
D 32 Camperdown.
D 35 Diamond.
D 43 Matapan.
D 51 Chevron.
D 52 Chaplet.
D 55 Finisterre.
D 60 Sluys.
D 61 Chequers.
D 62 Jutland.
D 64 Scorpion.
D 68 Barrosa.
D 70 Solebay.
D 73 Cavalier.
D 77 Trafalgar.
D 84 Saintes.
D 85 Cambrian.
D 86 Agincourt.
D 96 Crossbow.
D 97 Corunna.
D 106 Decoy.
D 108 Dainty.
D 114 Defender.
D 118 Battleaxe.
D 119 Delight.
D 126 Diana.
D 154 Duchess.
D 248 Obedient

F Flag Superior:

F 08 Urania.
F 09 Troubridge.
F 14 Leopard.
F 17 Ulysses.
F 19 Terpsichore.
F 23 Teazer.
F 26 Petard.
F 27 Lynx.
F 29 Verulam.
F 32 Salisbury
F 34 Puma.
F 36 Whitby.
F 37 Jaguar.
F 41 Volage.
F 43 Torquay.
F 44 Tenacious.
F 48 Dundas.
F 50 Venus.
F 51 Grafton.
F 53 Undaunted
F 54 Hardy.
F 59 Chichester.
F 61 Llandaff.
F 62 Pellew.
F 63 Scarborough.
F 65 Tenby.
F 67 Tyrian.
F 72 Wizard.
F 73 Eastbourne.
F 76 Virago.
F 77 Blackpool.
F 78 Blackwood.
F 80 Duncan.
F 83 Ulster.
F 84 Exmouth.
F 85 Keppel.
F 88 Malcolm.
F 91 Murray.
F 93 Vigilant.
F 94 Palliser.
F 97 Russell.
F 98 Orwell.
F 99 Lincoln.
F 101 Yarmouth
F 102 Zest.
F 103 Lowestoft
F 104 Dido
F 106 Brighton
F 107 Rothesay
F 108 Londonderry
F 109 Leander
F 113 Falmouth
F 114 Ajax
F 115 Berwick
F 117 Ashanti
F 119 Eskimo
F 121 Tumult.
F 122 Gurkha
F 123 Crane.
F 124 Zulu
F 125 Mohawk
F 126 Plymouth
F 127 Penelope
F 129 Rhyl
F 131 Nubian
F 133 Tartar
F 138 Rapid.
F 141 Undine.
F 142 Brocklesby
F 156 Tuscan.
F 159 Wakeful.
F 169 Paladin.
F 185 Relentless.
F 187 Whirlwind.
F 189 Termagant.
F 193 Rocket.
F 195 Roebuck.
F 196 Urchin.
F 197 Grenville.
F 200 Ursa.
F 390 Loch Fada.
F 428 Loch Alvie.
F 429 Loch Fyne.
F 433 Loch Insh.
F 436 Surprise.
F 437 Loch Lomond.
F 600 St. Bride's Bay.
F 628 Loch Killisport.
F 630 Cardigan Bay.
F 645 Loch Ruthven.
F 647 Alert.
F 655 Loch Tralaig

PENNANT NUMBERS—*continued*

Note:—The pennant numbers of many submarines were changed on 1 May 1961, several "A" class and "T" class boats in the S09 to S27 range having been renumbered in the S61 to S74 range to enable all the post-war built conventional submarines to be numbered from S01 to S20 and onwards. Nuclear-powered submarines were at the same time renumbered in a new S101 series

Submarines, Landing Ships, Escort Minesweepers, Coastal Minesweepers, Inshore Minesweepers, etc.

S Flag Superior:

S 01 Porpoise.
S 02 Rorqual.
S 03 Narwhal.
S 04 Grampus.
S 05 Finwhale.
S 06 Cachalot.
S 07 Sealion.
S 08 Walrus.
S 09 Oberon.
S 10 Odin.
S 11 Orpheus.
S 12 Olympus.
S 13 Osiris
S 14 Onslaught.
S 15 Otter.
S 16 Oracle.
S 17 Ocelot
S 18 Otus
S 25 Thule.
S 28 Token.
S 30 Explorer.
S 31 Trenchant
S 32 Tiptoe.
S 33 Trump.
S 34 Taciturn.
S 35 Tapir.
S 37 Talent.
S 38 Teredo.
S 40 Excalibur.
S 41 Alaric
S 42 Tabard.
S 43 Amphion.
S 44 Sea Devil
S 47 Astute.
S 49 Artemis.
S 52 Totem.
S 53 Truncheon
S 54 Turpin.
S 55 Thermopylae
S 56 Sentinel.
S 58 Scorcher.
S 61 Acheron
S 62 Aurochs
63 Andrew
S 64 Anchorite
S 65 Alcide
S 66 Alderney
S 67 Alliance.
S 68 Ambush.
S 69 Auriga
S 72 Aeneas
S 74 Tactician
S 77 Tireless.
S 89 Seraph.
S 96 Artful.
S 101 Dreadnought
S 102 Valiant
S 126 Tudor.
S 143 Scotsman.
S 153 Sea Scout.

L Flag Superior

L 369 Meon
L 3003 Anzio.
L 3016 Dieppe
L 3027 Lofoten.
L 3029 Chaser
L 3043 Messina.
L 3044 Narvik.
L 3515 Stalker.
L 3516 Striker.
L 3522 Tracker.

M Flag Superior:

M 29 Cockatrice.
M 46 Pluto.
M 73 Niger.
M 88 Cheerful.
M 106 Acute.
M 216 Espiegle.
M 227 Mutine.
M 298 Recruit.
M 299 Rifleman.
M 304 Waterwitch.
M 387 Chameleon.
M 390 Jewel.
M 1101 Coniston
M 1103 Alfriston
M 1104 Alverton
M 1105 Amerton
M 1106 Appleton
M 1107 Beachampton
M 1108 Bevington
M 1109 Curzon
M 1110 Bildeston
M 1111 Edderton
M 1112 Warsash
M 1113 St. David
M 1114 Brinton
M 1115 Bronington
M 1116 Burnaston
M 1117 Thames
M 1118 Calton
M 1119 Carhampton
M 1120 Caunton
M 1122 Chilcompton
M 1123 Clarbeston
M 1124 Clyde
M 1125 Cuxton
M 1126 Dalswinton
M 1128 Killiekrankie
M 1129 Oulston
M 1130 Highburton
M 1131 Hickleton
M 1132 Blaxton
M 1133 Bossington
M 1134 Essington
M 1135 Fenton
M 1136 Fittleton
M 1137 Flockton
M 1138 Floriston
M 1140 Gavinton
M 1141 Glasserton
M 1143 Hexton
M 1145 Dufton
M 1146 Hodgeston
M 1147 Hubberston
M 1148 Ilmington
M 1149 Badminton
M 1150 Invermoriston
M 1151 Iveston
M 1153 Kedleston
M 1154 Kellington
M 1155 Monkton
M 1156 Kemerton
M 1157 Kilmorey
M 1158 Laleston
M 1159 Lanton
M 1160 Letterston
M 1161 Leverton
M 1162 Kildarton
M 1163 Lullington
M 1164 Maddiston
M 1165 Maxton
M 1166 Montrose
M 1167 Repton
M 1168 Dilston
M 1169 Penston
M 1170 Picton
M 1171 Aldington
M 1172 Thankerton
M 1173 Mersey
M 1174 Puncheston
M 1175 Northumbria
M 1176 Rennington
M 1177 Roddington
M 1178 Santon
M 1179 Sefton
M 1180 Shavington
M 1181 Sheraton
M 1182 Shoulton
M 1184 Sullington
M 1186 Tarlton
M 1187 Upton
M 1188 Walkerton
M 1189 Wasperton
M 1192 Wilkieston
M 1193 Wolverton
M 1194 Woolaston
M 1195 Wotton
M 1196 Yarnton
M 1198 Ashton
M 1199 Belton
M 1200 Soberton
M 1202 Maryton
M 1203 Dartington
M 1204 Stubbington
M 1205 Wiston
M 1206 Fiskerton
M 1208 Lewiston
M 1209 Chawton
M 1211 Houghton
M 1216 Crofton
M 2001 Dingley
M 2002 Aveley
M 2003 Brearley
M 2004 Brenchley
M 2005 Brinkley
M 2007 Watchful
M 2008 Squirrel
M 2009 Chailey
M 2010 Cradley
M 2601 Inglesham
M 2603 Arlingham
M 2605 Bassingham
M 2608 Blunham
M 2609 Bodenham
M 2610 Boreham
M 2611 Bottisham
M 2613 Brigham
M 2614 Bucklesham
M 2616 Chelsham
M 2617 Chillingham
M 2618 Cobham
M 2619 Darsham
M 2620 Davenham
M 2621 Dittisham
M 2622 Downham
M 2624 Elsenham
M 2626 Everingham
M 2627 Felmersham
M 2628 Flintham
M 2629 Damerham
M 2630 Fritham
M 2631 Glentham
M 2632 Greetham
M 2633 Halsham
M 2634 Harpham
M 2635 Haversham
M 2636 Lasham
M 2637 Hovingham
M 2701 Cranham
M 2706 Ledsham
M 2708 Ludham
M 2710 Mickleham
M 2712 Neasham
M 2713 Nettleham
M 2714 Ockham
M 2716 Pagham
M 2717 Fordham
M 2720 Powderham
M 2721 Isis
M 2722 Rackham
M 2723 Reedham
M 2726 Shipham
M 2727 Saxlingham
M 2728 Shrivenham
M 2729 Sidlesham
M 2733 Thakeham
M 2735 Tongham
M 2736 Tresham
M 2737 Warmingham
M 2777 Wintringham
M 2778 Woldingham
M 2779 Wrentham
M 2780 Yaxham
M 2781 Portisham
M 2782 Popham
M 2783 Odiham
M 2784 Puttenham
M 2785 Birdham
M 2786 Rampisham
M 2787 Abbotsham
M 2788 Georgeham
M 2790 Thatcham
M 2791 Sandringham
M 2792 Polsham
M 2793 Thornham

P Flag Superior:

P 05 Rosalind
P 58 Woodbridge Haven.
P 190 Laymoor
P 191 Layburn
P 200 Barfoss.
P 201 Barbain.
P 202 Barfoot.
P 204 Barhill.
P 207 Barcliffe.
P 209 Barcastle.
P 211 Barholm.
P 212 Barcroft.
P 214 Barbecue.
P 215 Barnedale.
P 216 Barglow.
P 218 Barleycorn.
P 219 Barmouth.
P 223 Moorpout
P 224 Barspear.
P 227 Barkis.
P 232 Barmond.
P 234 Barova.
P 235 Barthorpe.
P 237 Barnaby.
P 238 Barnehurst
P 239 Barlake
P 240 Barrhead.
P 241 Barnard.
P 242 Barbette.
P 243 Barbican.
P 244 Barfield.
P 245 Barbridge
P 252 Barcote.
P 254 Barrage.
P 258 Barwind.
P 259 Barrington.
P 261 Bartizan.
P 262 Baron.
P 265 Barranca.
P 270 Barbourne.
P 271 Bardolf.
P 274 Barclose.
P 275 Barsing.
P 276 Barbastel.
P 277 Barcock.
P 281 Barking.
P 282 Barfoam.
P 284 Moorsman.
P 287 Barcarole.
P 289 Barsound.
P 290 Barfount.
P 294 Barfoil.
P 297 Barnestone.
P 298 Barrier.

URUGUAY

Administration

Inspector General of the Navy:
Rear-Admiral Victor M. Dodino

Personnel

1962: 350 officers and 1,500 ratings
(Officially revised figures)

Mercantile Marine

Lloyd's Register of Shipping:
40 vessels of 75,726 tons *gross*.

FRIGATES

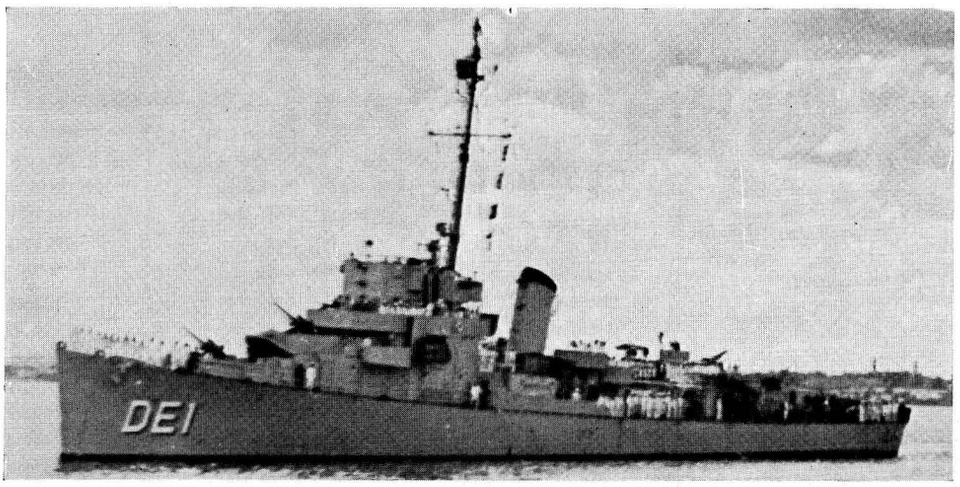
2 Ex-U.S. Destroyer Escort Type (Escort Vessels, DE)

ARTIGAS (ex-U.S.S. *Bronstein*, *DE* 189)
URUGUAY (ex-U.S.S. *Baron*, *DE* 166)

Name:	*Artigas*	*Uruguay*
Pennant No.:	*DE* 2	*DE* 1
Builders:	Federal S.B. & D.D. Co., Port Newark	Federal S.B. & D.D. Co., Port Newark
Launched:	14 Nov. 1943	9 May 1943
Completed:	13 Dec. 1943	5 July 1943

Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅜ × 14 (*max.*) feet
Guns:	3—3 inch, 2—40 mm. AA., 10—20 mm. AA.
Tubes:	3—21 inch (triple)
A/S weapons:	Hedgehog. 8 D.C.T.
Machinery:	Diesel-electric. 2 shafts. B.H.P.: 6,000=21 kts.
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	187

Notes
Former United States destroyer escorts of the "Bostwick" class, transferred to Uruguay in 1951. *Artigas* has a mainmast (photograph in the 1953-54 to 1957-58 editions).



URUGUAY — 1957, *Uruguayan Navy, Official*

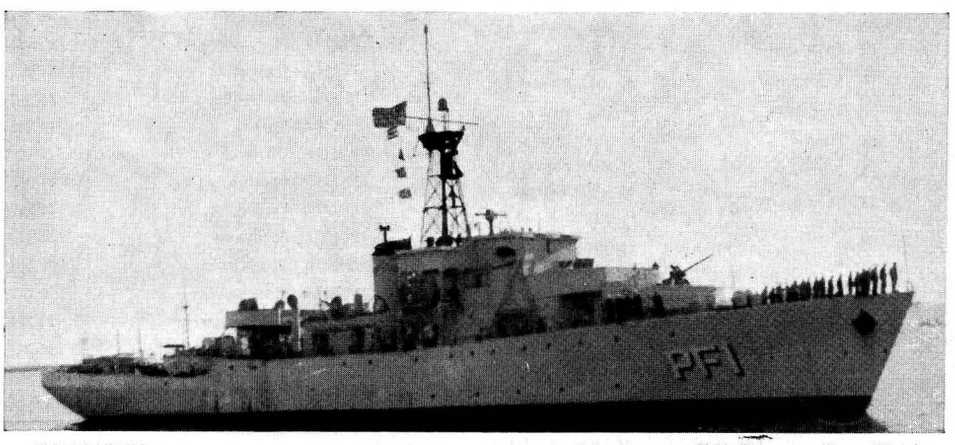
Ex-British Corvette Type Training Ship (*Buque Escuela*)

MONTEVIDEO (ex-H.M.C.S. *Arnprior*, ex-H.M.S. *Rising Castle*)

Pennant No.:	PF 1
Builders:	Harland & Wolff, Ltd., Belfast
Laid down:	21 June 1943
Launched:	8 Feb. 1944
Completed:	26 June 1944

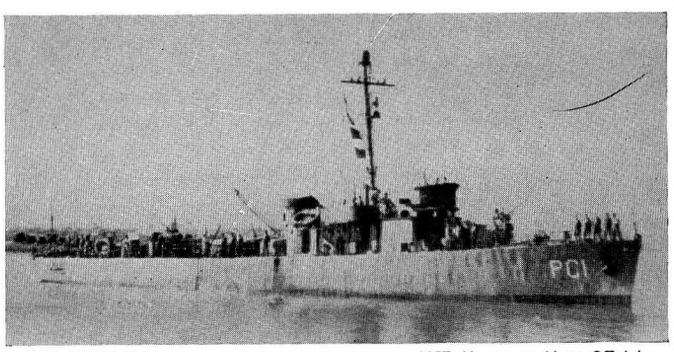
Displacement:	1,010 tons *standard* (1,600 tons *full load*)
Dimensions:	251½ × 36⅜ × 17½ (*max.*) feet
Guns:	1—3 inch, 2—40 mm. AA., 4—20 mm. AA.
A/S weapons:	Hedgehog. 2 D.C.T.
Machinery:	Triple expansion. 190 r.p.m. I.H.P.: 2,750=17 kts.
Boilers:	2 water tube, oil fired
Oil fuel:	320 tons (*normal*), 480 tons (*max.*)
Radius:	9,500 miles at 10 kts.
Complement:	90

Notes
Former British and Canadian "Castle" class corvette (frigate). Employed as a training ship.



MONTEVIDEO — 1956, *Uruguayan Navy, Official*

PATROL VESSELS



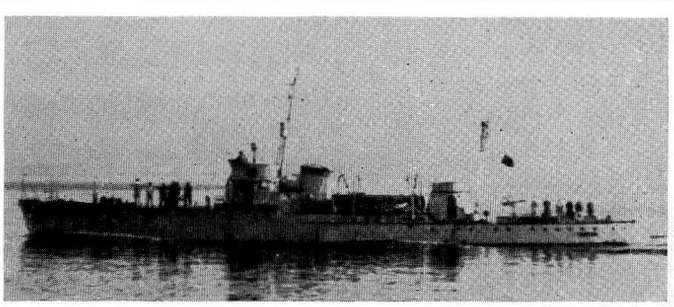
MALDONADO — 1957, *Uruguayan Navy, Official*

1 Ex-U.S. PC Type

MALDONADO (ex-*PC* 1234)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	165 (*pp.*), 170 (*w.l.*), 173¾ (*o.a.*) × 23 × 10⅝ (*max.*) feet
Guns:	1—3 inch d.p., 1—40 mm., 3—20 mm.
A/S weapons:	1 M.T., 4 D.C.T.
Machinery:	2 sets G.M. 2-stroke Diesels. 2 shafts. B.H.P.: 3,750=22 kts.
Complement:	65

Notes
Former submarine chaser. Built in New York. Launched on 3 Apr. 1943. Transferred from U.S. Navy in 1944. Pennant No. PC 1 (ex-B 1).
There is also the small and old rescue motor launch **AR 1** (25 tons, 63 feet, launched in 1944), see full particulars in the 1961-62 edition.



RIO NEGRO — 1957, *Uruguayan Navy, Official*

3 "Paysandu" Class

PAYSANDU (21 July 1935) **RIO NEGRO** (22 Aug 1935) **SALTO** (11 Aug. 1935)

Displacement:	150 tons *standard* (180 tons *full load*)
Dimensions:	137½ × 19 × 5½ feet
Guns:	*Paysandu*: 2—20 mm., 1—37 mm. AA. *Rio Negro*: 1—47 mm. 1 M.G. *Salto*: 2—20 mm., 1 M.G.
Machinery:	2 sets Germania Diesels. B.H.P.: 1,000=17 kts.
Oil fuel:	18 tons
Radius:	4,000 miles at 10 kts.
Complement:	26

Notes
Employed as training ships. Pennant numbers PR1, PR3, PR2, respectively, substituted for A pennant Nos. in 1956. Built by Cantieri Navali Riuniti, Ancona, Italy. Launch dates above.

SURVEYING VESSEL

CAPITAN MIRANDA

Displacement:	516 tons
Dimensions:	148 (*pp.*), 167 (*o.a.*) × 28 × 10 feet
Machinery:	1 M.A.N. Diesel. B.H.P.: 500=10·5 kts.
Oil fuel:	45 tons
Complement:	52

Notes
Built by Sociedad Espanola de Construccion Naval, Matagorda, Cadiz. Launched in 1930. Photograph in the 1932 to 1957-58 editions.

OILER

AO 9

Measurement:	17,920 tons *gross*, 28,267 tons *deadweight*
Dimensions:	587¼ (*pp.*), 620 (*o.a.*) × 84⅓ × 33 feet
Machinery:	1 set Ishikawajima-Haruma turbines. S.H.P.: 12,500=16·75 kts
Boilers:	2 Ishikawajima-Harima Foster wheeler type
Complement:	76

Notes
Built by Ishakawajima-Harima Ltd. Delivered to the Uruguayan Navy on 22 Mar. 1962.

UNITED STATES NAVY

Administration and Command

Commander-in-Chief:
President of the United States, Mr. John F. Kennedy.
Secretary of the Navy:
Mr. Fred H. Korth.
Under Secretary of the Navy:
Mr. Paul B. Fay, Jr.
(There are three Assistant Secretaries of the Navy).
Chief of Naval Operations:
Admiral George W. Anderson, U.S.N.
Vice-Chief of Naval Operations:
Admiral Claude V. Ricketts, U.S.N.
(There are three Assistant C.N.O.s and six Deputy C.N.O.s).
Commander-in-Chief, U.S. Atlantic Fleet:
Admiral Robert L. Dennison, U.S.N.
Commander-in-Chief, U.S. Pacific Fleet:
Admiral John H. Sides, U.S.N.
Naval Attaché and Naval Attaché for Air, London:
Rear-Admiral R. B. Lynch, U.S.N.

Strength of United States Fleet

26	attack and support aircraft carriers.	275	destroyer escorts.
6	amphib. assault ships (carriers).	64	des. esc. transports.
8	auxiliary aircraft transports (carriers).	26	nuclear submarines.
16	aircraft ferry ships (carriers).	150	submarines.
4	battleships.	14	escorts.
3	command ships.	243	mine craft.
21	heavy cruisers.	21	patrol vessels.
21	light cruisers.	240	amphibious craft.
16	frigates (destroyer leaders).	420	fleet auxiliaries.
356	destroyers.	1,260	service craft.
10	destroyer minelayers.		

Total: 3,200.
Active: 900 on 30 Sep. 1962 (400 warships and 500 support ships).

Ships

All modern aircraft carriers, battleships, cruisers, etc., have bows of bulbous form. This has been found advantageous when ships are being pressed to their utmost speeds. In large cruisers the effect is only felt at about 29 knots and over.

All warships from destroyers up to aircraft carriers will have twin 3 inch, 50 cal. automatic mountings replacing quadruple 40 mm. AA. guns. This change will take some time to effect in all ships. 20 mm. AA. mountings have been removed from all active aircraft carriers, cruisers and destroyers.

All ships are painted light grey overall, except submarines, most of which are painted black, with large serial numbers on the bows, except aircraft carriers.

Aircraft carriers are differentiated by their serial numbers painted on the funnels and identified from the air by the same figures painted prominently on the flight deck forward and aft.

Destroyers carry numbers on their bows, on their sterns, and also on their helicopter platforms for identification from the air.

Submarines carry numbers on their conning towers and also on their bows.

Personnel

Navy: 627,089 officers and enlisted men on 30 June 1961; 666,000 on 30 June 1962; 665,315 (proposed) on 30 June 1963.
Marine Corps: 176,909 officers and enlisted men on 30 June 1961; 178,000 on 30 June 1962; 190,000 (proposed) on 30 June 1963.

Nomenclature

Aircraft carriers are named mostly after historical naval vessels or battles; battleships after States; heavy cruisers and light cruisers after large cities; destroyer leaders (frigates) after Admirals; destroyers after officers and enlisted men of the Navy and Marine Corps, Secretaries of the Navy, Members of Congress and inventors.

Destroyer escorts and destroyer escort transports are named after Navy men, Marines, or Coast Guard personnel killed in action during the Second World War.

Submarines are named after fish and marine creatures (ballistic missile submarines after men famous in American history); ocean minesweepers and fleet minesweepers after abstract qualities, etc., and birds; escorts and submarine chasers after small cities and towns.

Submarine tenders are named after pioneers in submarine development and mythological characters; destroyer tenders after geographical features and natural areas of the United States, e.g., mountain ranges, valleys, etc.; repair ships after mythological characters.

Large seaplane tenders and escort carriers are named after sounds and bays; ammunition ships after volcanoes and ingredients of explosives; transports after flag and general officers, Commandants of the Marine Corps and Marine Corps officers; attack transports and attack cargo ships after counties; coastal minesweepers after birds; inshore minesweepers after seaboard features.

Tank landing ships are named after counties; and medium landing ships, rocket, after rivers.

Small seaplane tenders are named after bays, straits and inlets; submarine rescue vessels after birds; oilers after rivers with Indian names; ocean-going tugs after Indian tribes; and harbour tugs after Indian Chiefs and words of the Indian dialect.

Occasional exceptions to this system will be found.

Ships' names are prefaced by "U.S.S." (United States Ship) or "U.S.N.S." (U.S. Naval Ship—non-commissioned ships of the Military Sea Transportation Service).

Future Naval Programme

By 1967 it is planned that there will be:
A fleet of 81 nuclear powered submarines.
The U.S. Navy proposes to raise its nuclear powered ballistic missile submarine fleet to about 41 (revised 1962) **units (all Polaris armed).**
It is intended that by 1970 there will be:
150 ships with nuclear powered machinery plants;
200 ships armed with surface to air guided missiles;
All combatant ships armed with anti-submarine missiles or equipped with anti-submarine aircraft.

1962-63 New Construction Programme

1 Conventionally Powered Attack Aircraft Carrier, CVA.
1 Nuclear Powered Guided Missile Frigate, D L G N.
6 Nuclear Powered Fleet Ballistic Missile Submarines, SSBN.
8 Nuclear Powered Attack Submarines, SSN.
1 Amphibious Assault Ship, LPH.
4 Amphibious Transports, Dock, LPD.
3 Guided Missile Escort Ships, DEG.
5 Escort Ships, DE.
2 Motor Gunboats, PGM.
1 Fleet Ballistic Missile Submarine Tender, AS (FBM).
1 Fast Combat Support Ship, AOE.
2 Oceanographic Research Ships, AGOR.
1 Surveying Ship, A G.
1 Roll-on/Roll-off Cargo Ship, T-AK, MSTS (Ro/Ro).

1962-63 Conversion Programme

1 Command Ship, CC. Former CVL.
24 Destroyers, DD. Mark I Fleet Rehabilitation and Modernisation.
1 Mine Countermeasures Support Ship, MCS. Former LSV.
1 Major Communications Relay Ship, AGMR.
1 Fleet Ballistic Missile Resupply Cargo Ship, AK (FBM).
1 Prototype Guided Missiles Experimental Ship, AVM.
1 Fast Ammunition Ship, AE.
2 Technical Research Ships, AGTR.
2 Fast Fleet Oilers, AO (JUMBO).

1961-62 New Construction Programme

1 Nuclear Powered Guided Missile Frigate, DLGN.
6 Guided Missile Frigates, DLG.
10 Nuclear Powered Fleet Ballistic Missile Submarines, SSBN.
3 Nuclear Powered Submarines, SSN.
3 Guided Missile Escort Ships, DEG.
3 Escort Ships, DE.
1 Amphibious Assault Ship, LPH.
3 Amphibious Transports, Dock, LPD.
1 Combat Store Ship, AFS.
1 Hydrofoil Research Ship, AGEH.
1 Submarine Tender, AS.
1 Surveying Ship, AGS.
2 Oceanographic Research Ships, AGOR.

1961-62 Conversion Programme

1 Command Ship, CC. Former CVL.
14 Destroyers, DD. (Mark I Fleet Rehabilitation and Modernisation).
6 Submarines, SS. (Mark II Fleet Rehabilitation and Modernisation).
1 Missile Range Instrumentation Ship, AGM.
1 Major Communications Relay Ship, AGMR. (Rescinded).

1960-61 New Construction Programme

1 Attack Aircraft Carrier, CVA.
3 Guided Missile Frigates, DLG.
2 Guided Missile Destroyers, DDG.
5 Nuclear Powered Fleet Ballistic Missile Submarines, SSBN.
4 Nuclear Powered Fleet Anti-Submarine Warfare Submarines, SSN.
2 Escort Ships DE.
1 Amphibious Transport, Dock, LPD.
1 Fast Combat Support Ships, AOE.
1 Combat Store Ship, AFS.
1 Oceanographic Research Ship, AGOR.
1 Auxiliary Deep Diving Submarine, AGSS.
1 Escort Research Ship, AG.

1960-61 Conversion Programme

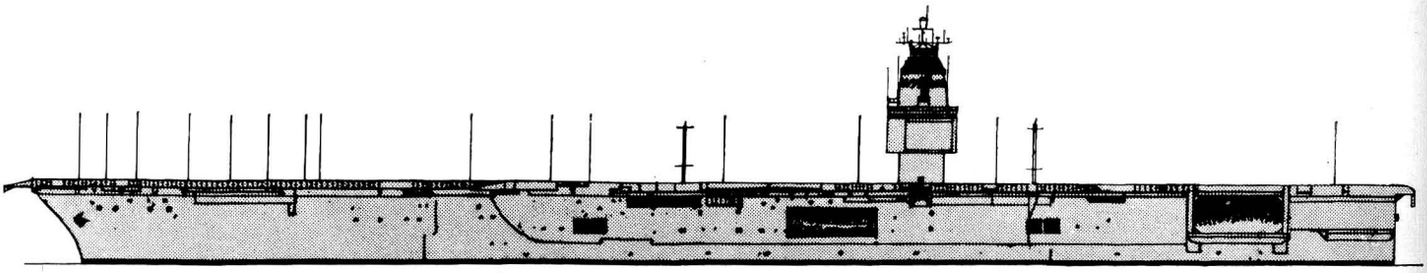
14 Destroyers, DD (Mark I Fleet Rehabilitation and Modernisation).
1 Auxiliary (Fast Experimental) Submarine, AGSS.

Naval Appropriations

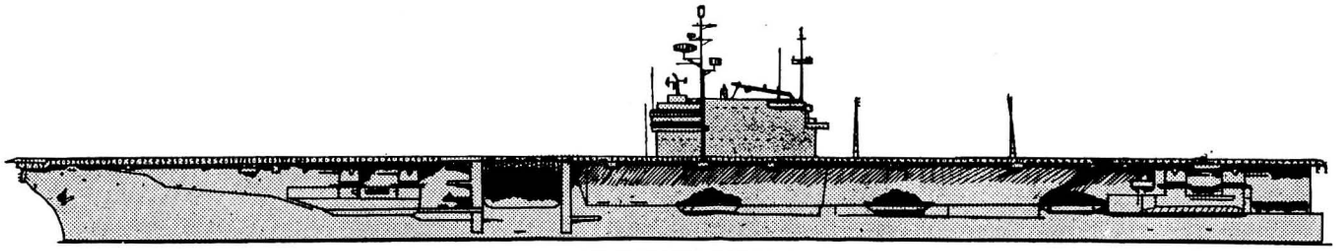
1950: $ 4,105,000,000	1954: $ 9,348,000,000	1958: $10,696,000,000
1951: $12,503,000,000	1955: $ 9,766,000,000	1959: $11,958,000,000
1952: $16,118,000,000	1956: $ 9,648,000,000	1960: $11,326,000,000
1953: $12,555,000,000	1957: $10,478,000,000	1961: $12,276,411,000
		1962: $14,771,000,000

Mercantile Marine

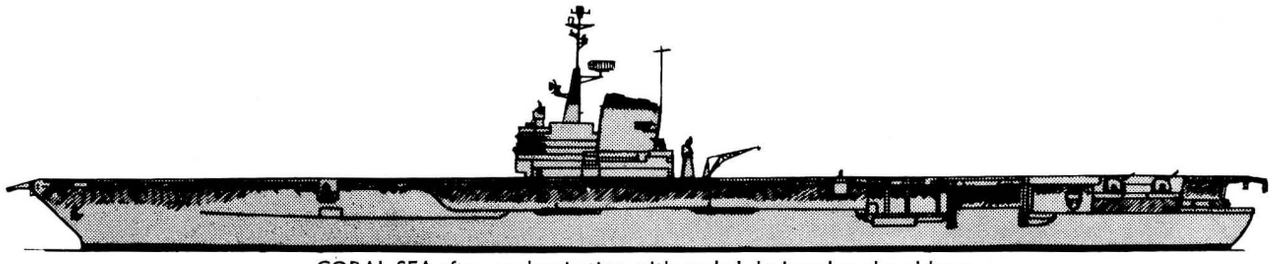
Lloyd's Register of Shipping:
Sea, 3,527 vessels of 21,795,607 tons, *gross*.
Great Lakes, 409 vessels of 2,442,415 tons *gross*.
Total: 3,936 vessels of 24,238,022 tons *gross*.



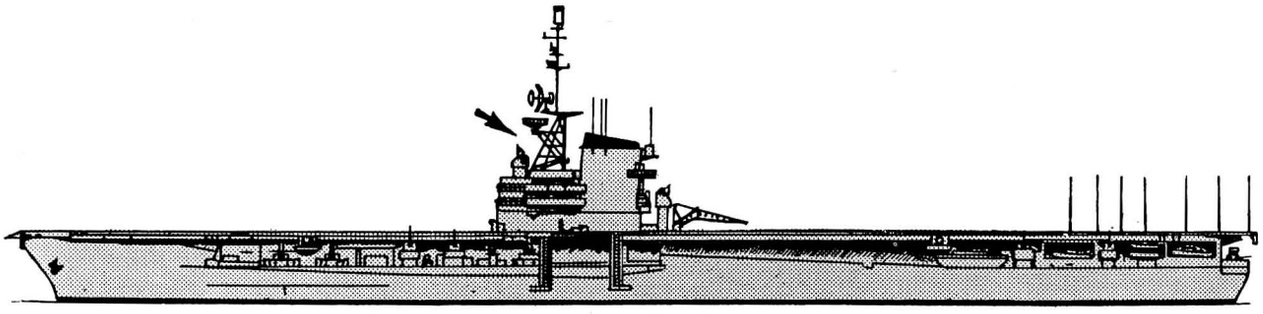
ENTERPRISE. Nuclear Powered Attack Aircraft Carrier



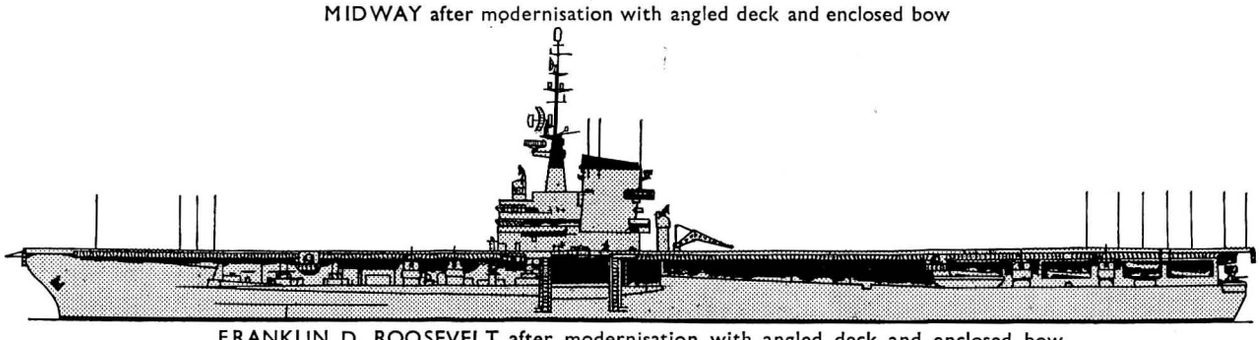
FORRESTAL, INDEPENDENCE, RANGER, SARATOGA



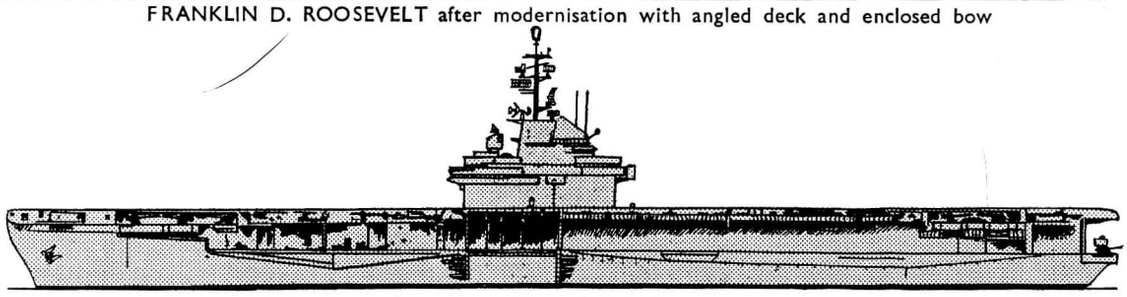
CORAL SEA after modernisation with angled deck and enclosed bow



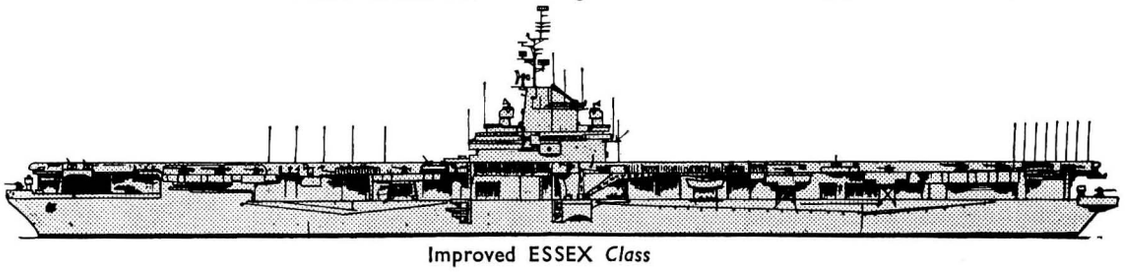
MIDWAY after modernisation with angled deck and enclosed bow



FRANKLIN D. ROOSEVELT after modernisation with angled deck and enclosed bow

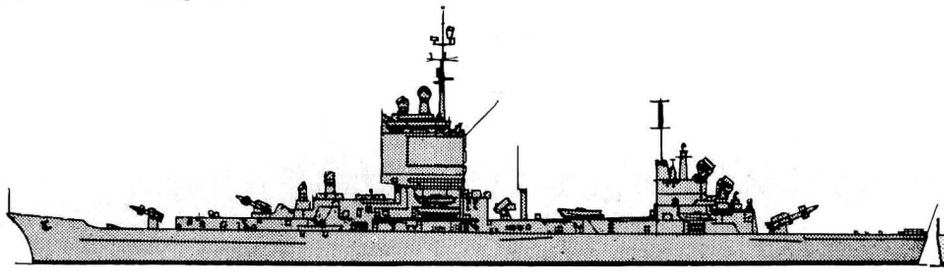


Modernised ESSEX *Class* with angled deck and enclosed bow

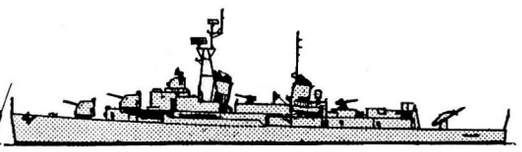


Improved ESSEX *Class*

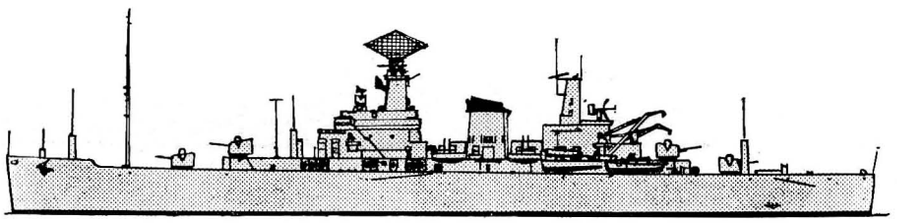
Scale : 150 ft. = 1 inch



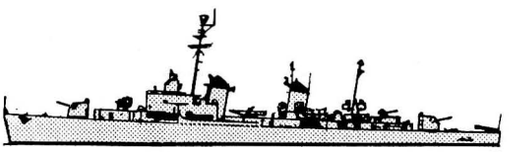
LONG BEACH. Nuclear Powered Guided Missile Cruiser



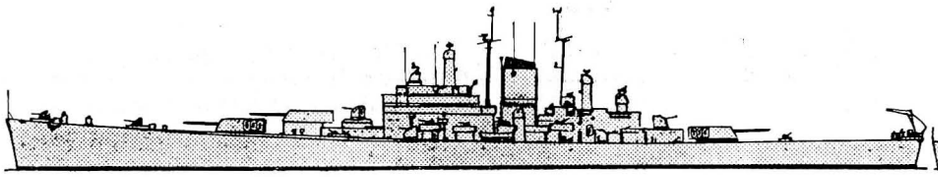
GYATT. Guided Missile Destroyer (Converted)



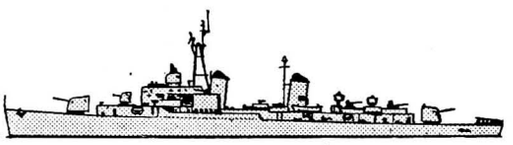
NORTHAMPTON. Command Ship. Originally designed as a Heavy Cruiser



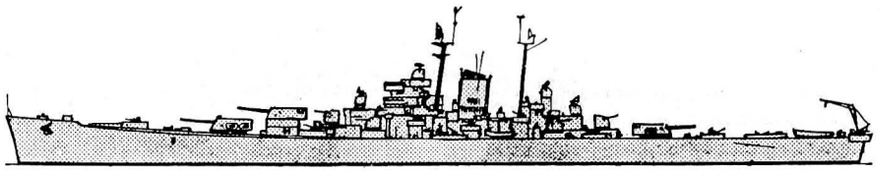
CARPENTER *Class*



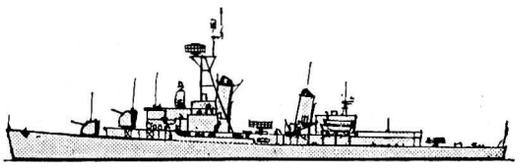
DES MOINES, NEWPORT NEWS, SALEM



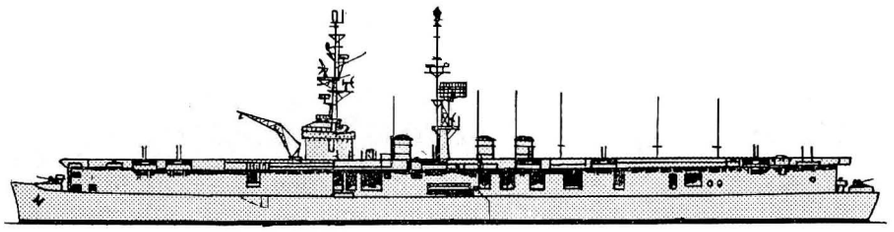
Converted GEARING *Class*



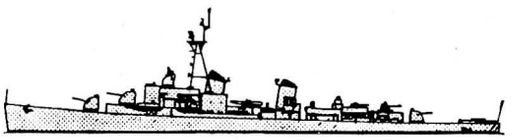
OREGON CITY, ROCHESTER



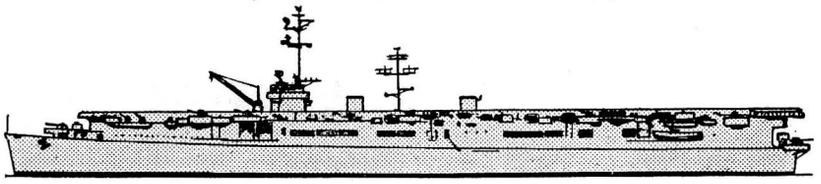
GEARING *Class* FRAM conversions



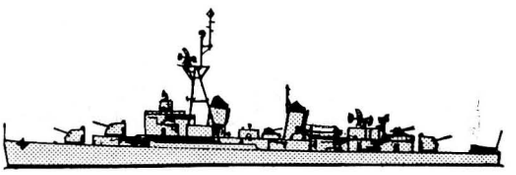
SAIPAN, WRIGHT. Aircraft Transports, ex-Aircraft Carriers
(being converted into Command Ships)



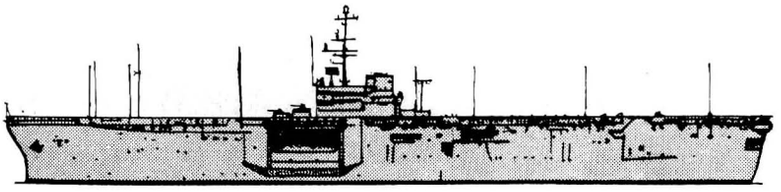
GEARING *Class* with tripod mast



CABOT and MONTEREY. Aircraft Transports, ex-Aircraft Carriers



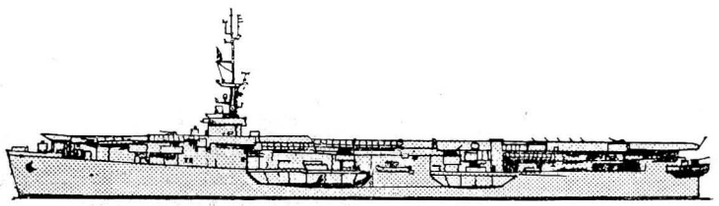
GEARING *Class* Radar Pickets



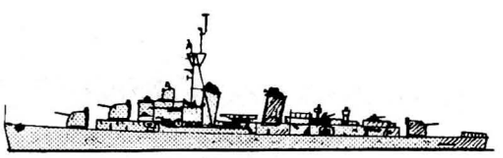
IWO JIMA Amphibious Assault Ship, (Helicopter Commando Carrier)



GEARING *Class* Radar Pickets with mainmast



COMMENCEMENT BAY *Class*. Aircraft Ferrys, ex-Escort Carriers

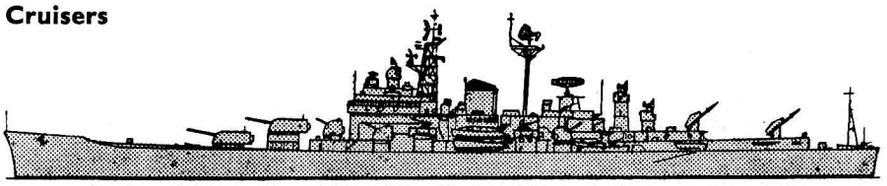


ALLEN M. SUMNER *Class* with tripod

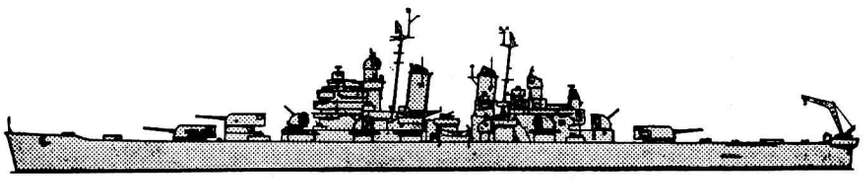
Silhouettes—*continued*

Scale : 150 ft. = 1 inch

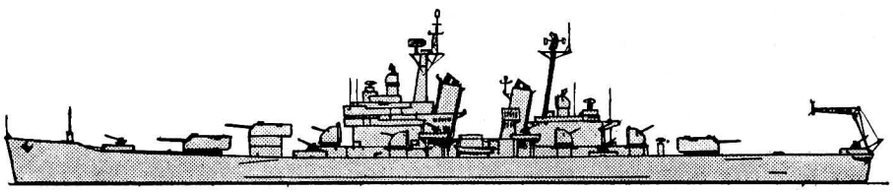
Cruisers



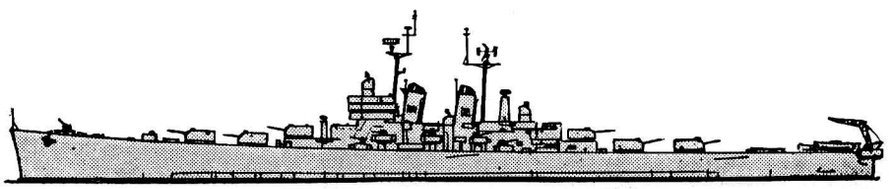
BOSTON, CANBERRA. Guided Missile Ships converted from Heavy Cruisers



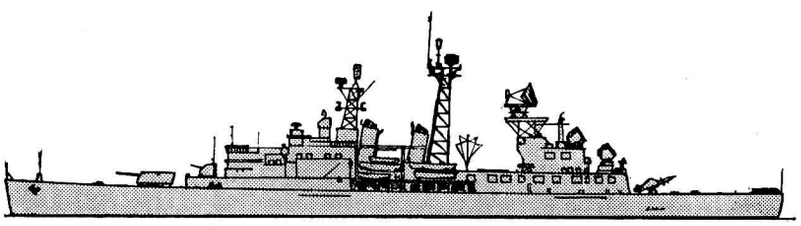
BALTIMORE *Class*, Heavy Cruisers



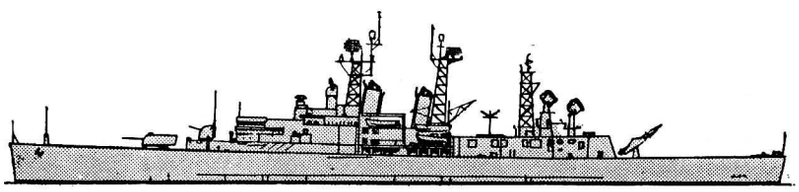
HELENA, ST. PAUL, Heavy Cruisers



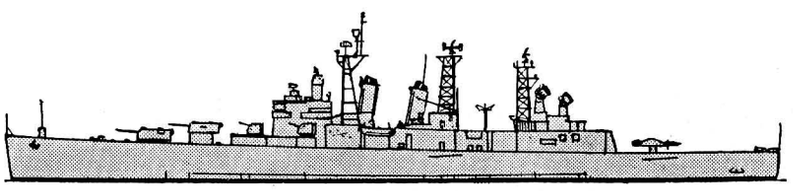
ROANOKE., WORCESTER. **Large Light Cruisers**



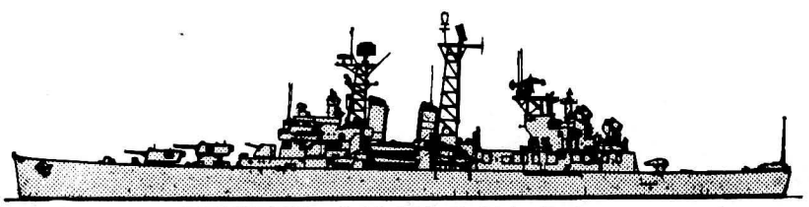
LITTLE ROCK, OKLAHOMA CITY. Guided Missile Light Cruisers



PROVIDENCE, SPRINGFIELD. Guided Missile Light Cruisers

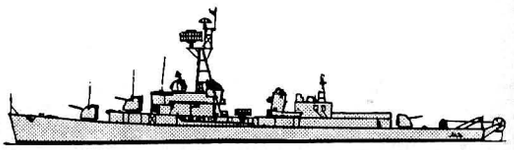


TOPEKA. Guided Missile Light Cruiser

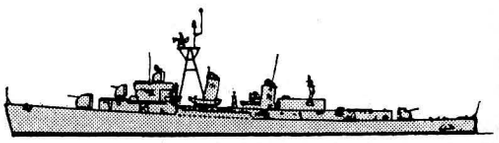


GALVESTON. Guided Missile Light Cruiser

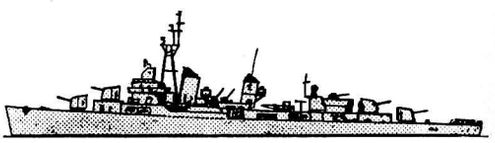
Destroyers



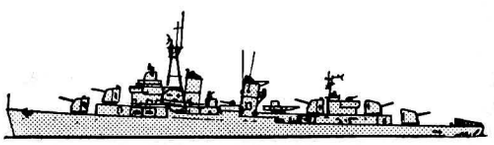
SUMNER *Class* FRAM Conversions



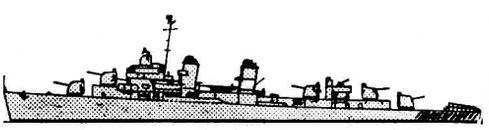
FLETCHER *Class* FRAM Conversions



FLETCHER *Class* with 4— 5″ guns



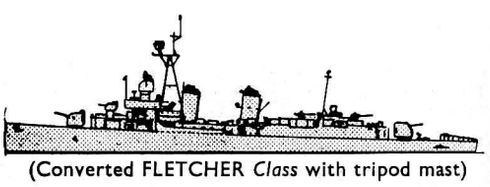
FLETCHER *Class* with 5—5″ guns



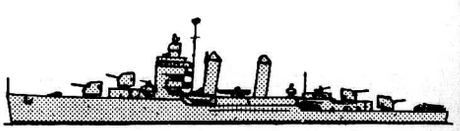
FLETCHER *Classes*
(Later type. Earlier vessels have higher fire control)



(Converted FLETCHER *Class* with polemast)



(Converted FLETCHER *Class* with tripod mast)

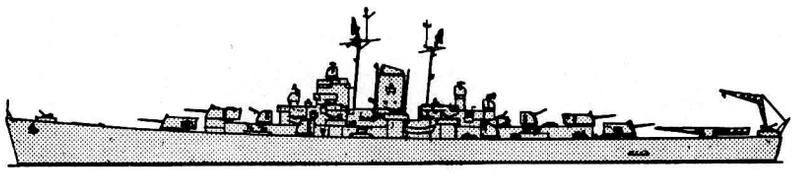


GLEAVES and MAYO *Classes*

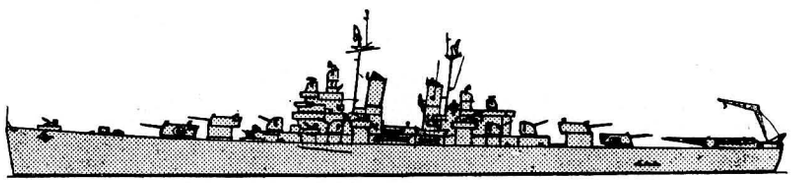
Cruisers, Destroyers

Silhouettes—*continued*
Scale : 150 ft. = 1 inch.

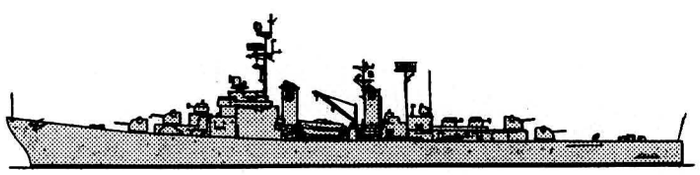
Destroyer Escorts



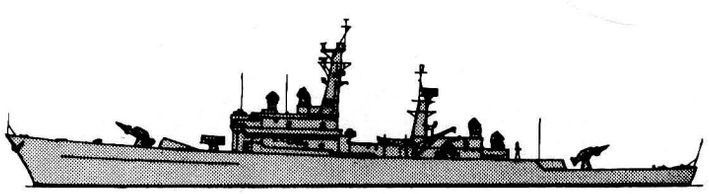
FARGO. Light Cruiser



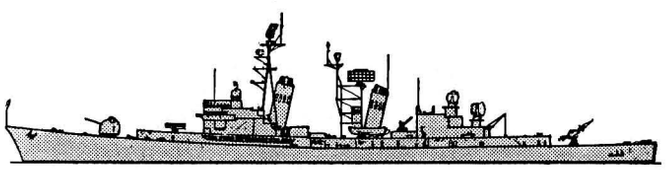
VINCENNES (CLEVELAND) *Class*. Light Cruisers



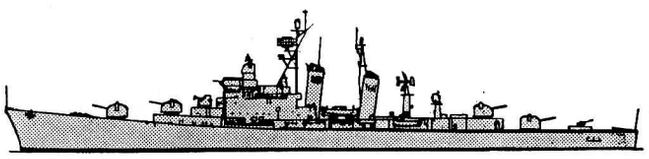
NORFOLK. Frigate, ex-Anti-Submarine Light Cruiser



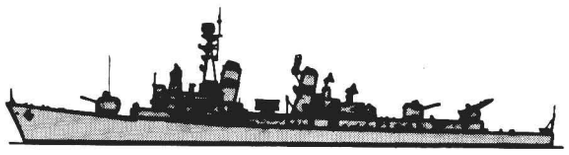
LEAHY *Class*, Guided Missile Frigates (Destroyer Leaders)



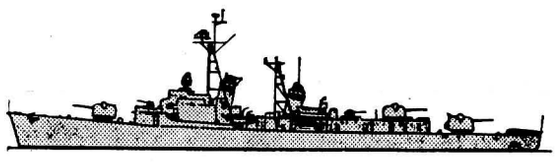
COONTZ *Class*. Guided Missile Frigates (Destroyer Leaders)



MITSCHER *Class*. Frigates, ex-Destroyer Leaders



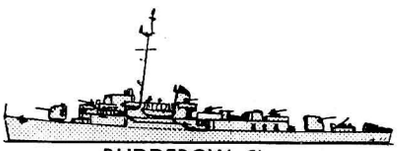
CHARLES F, ADAMS *Class*
Guided Missile Armed Destroyers



FORREST SHERMAN *Class*. Large Destroyers



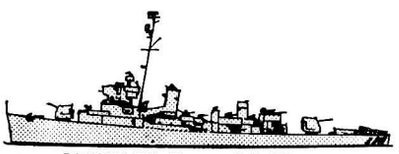
DEALEY *Class*
Destroyer Escorts



RUDDEROW *Class*
Destroyer Escorts



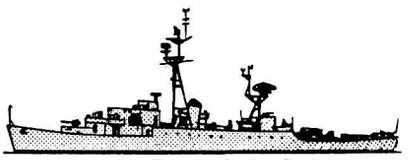
JOHN C. BUTLER *Class*
Destroyer Escorts



BUCKLEY *Type* with 5" guns
Destroyer Escorts



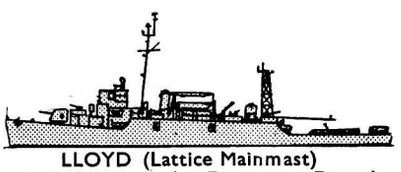
(BUCKLEY *Type* as Radar Picket)



(EDSALL *Type* as Radar Picket)

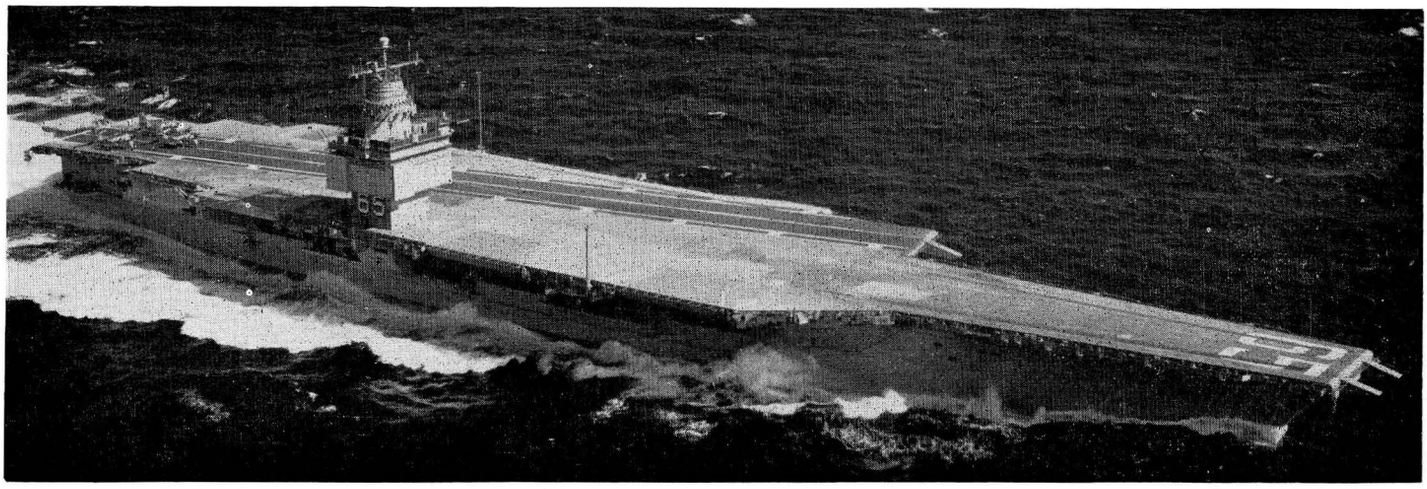


COOK *Type*
Fast Transports. (Ex-Destroyer Escorts)



LLOYD (Lattice Mainmast)
Fast Transport (ex-Destroyer Escort)

NUCLEAR POWERED ATTACK AIRCRAFT CARRIER (CVAN)



ENTERPRISE

1962, *courtesy Newport News Shipbuilding and Dry Dock Company, Builders*

ENTERPRISE

No:	CVA(N) 65
Builders:	The Newport News shipbuilding ing and Dry Dock Company, Newport News, Virginia
Engineers:	Westinghouse Electric Corporation, Pittsburgh, Pennsylvania
Ordered:	16 Aug. 1957
Laid down:	4 Feb. 1958
Launched:	24 Sep. 1960
Completed:	29 Dec. 1961
Displacement:	75,700 tons *standard*, 85,800 tons *(full load)*
Dimensions:	Length 1,040 (*pp.*), 1,102 (*o.a.*) feet. Beam: 133 feet (hull). Width, 252 feet (flight deck) extreme. Draught: 37 (*max*) feet. Hangar height: 25 feet. Area of flight deck: 4½ acres
Aircraft:	100 (more or fewer, according to size and type)
Guided Missiles:	2 twin "Terrier" ship-to-air launchers to be added
Catapults:	4 of C-13 steam type
Machinery:	8 pressurised water cooled A 2 W nuclear reactors. Geared steam turbines. 4 shafts. S.H.P.: over 300,000=33 kts. (35 kts. *max.*)
Radius:	400,000 miles at 20 kts.; 140,000 miles at full speed.
Complement:	440 officers and 4,160 men (plus air group) (215 officers and 3,082 men (less air group))

General Notes

The world's largest aircraft carrier ever to be constructed. Built under the Fiscal Year 1958 new construction program. The advance design and procurement of this first nuclear powered attack aircraft carrier was provided for under the Fiscal Year 1957 Appropriations. She has an unusually broad flight deck, a block island superstructure and no funnels; fully angled deck; four deck-edge lifts, three on the starboard side, one on the port. She has almost unlimited steaming endurance at high speed without regard to the conserving of fuel, thus improving her offensive and defensive capabilities and reducing her replenishment requirements. She is capable of steaming for five years without refuelling, and her cruising range is equivalent to twenty times around the world. She is able to carry twice as much aviation fuel as the "Forrestal" class. An additional 4,000 sq. ft. of flight deck space permits the operation of more and larger aircraft. With nuclear propulsion the new carrier does not require funnels or uptakes and this has reduced the superstructure to improve the radar capabilities and simplify the damage control. The absence of smoke stacks and boiler air intakes reduces the vulnerability of the power plant to battle damage and it eliminates the possibility of radioactive or biological agents entering the ship. A "stackless" ship also allows an island configuration which makes feasible the installation of new high performance radar. The new radar of four fixed antennae built into the sides of the island superstructure doubles former radar ranges.

Cost $444,000,000 (about £158,570,000 as revised in 1962, compared with $380,000,000 (£135,700,00) as revised in 1958 and $314,000,000 (about £112,141,000) the original estimate.

Engineering Notes

The nuclear propulsion plant for the new aircraft carrier was designed and developed by the Atomic Energy Commission at their Bettis plant in Pittsburgh, Pennsylvania, in co-operation with the Department of the Navy. Westinghouse Electric Corporation, Pittsburgh, Pennsylvania, obtained the contract to design and furnish the reactor compartment components and build the steam propulsion machinery on 17 Dec. 1957 (announced officially). There are two reactors for each of the four shafts. The eight reactors feed 32 heat exchangers (8×37,500=300,000). Expected to run five years with their first charge. The first reactor became critical on 2 Dec. 1960.

Nomenclature Notes

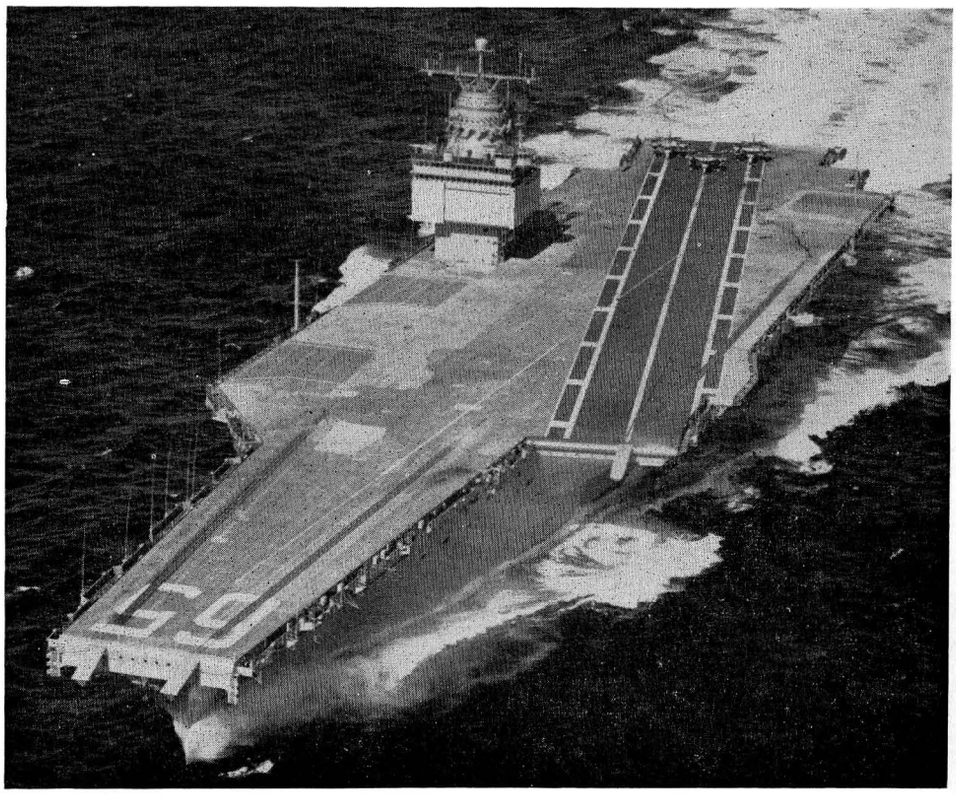
Names considered for this class included *Congress*, *Constitution* and *Enterprise*

Class Notes

It was the intention to build six nuclear powered attack aircraft carriers of this new class to bring the number of attack aircraft carriers up to the U.S. Navy's operational requirements of a minimum of 15 large and modern vessels with the six vessels of the "Forrestal" class and the three modernised ships of the "Midway" class, but *Enterprise* will be the only ship of her class.

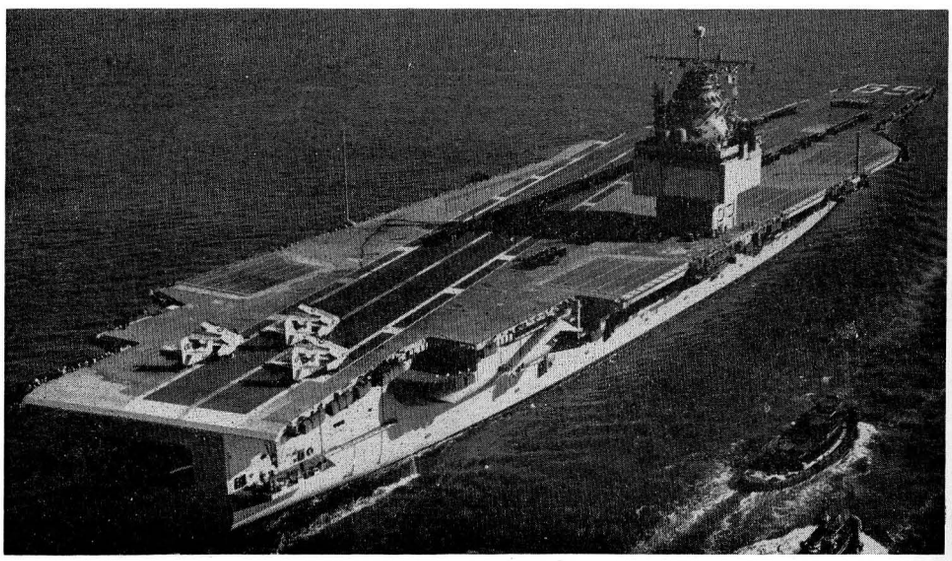
Construction Project Notes

The U.S. Navy was studying 15 designs for a second nuclear powered aircraft carrier which would have been smaller and less expensive than the new *Enterprise*; but the Navy's request for construction funds was not granted and $35,000,000 for long-lead items for the second nuclear powered aircraft carrier was taken out of the Fiscal Year 1959 budget. The ship was estimated to cost between $200,000,000 and $300,000,000, and to be smaller than *Enterprise* owing to newly designed smaller reactors.



ENTERPRISE

1962, *courtesy Newport News Shipbuilding and Dry Dock Company, Builders*



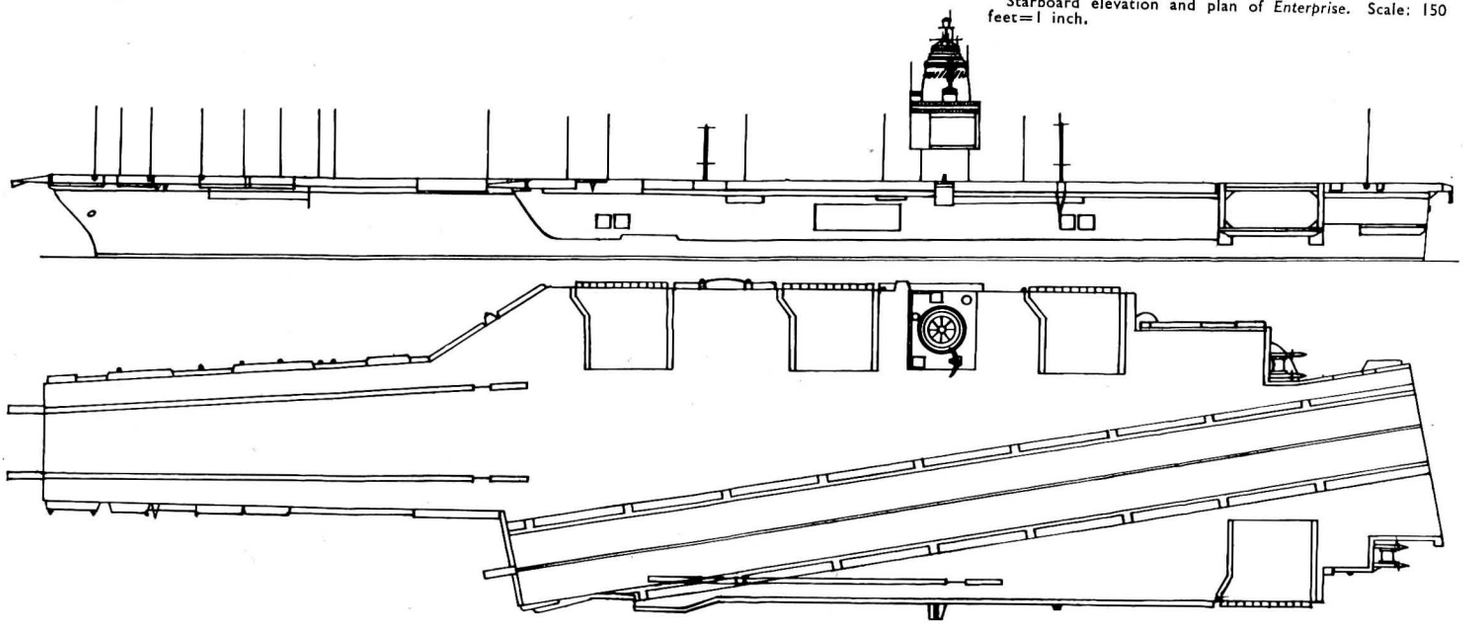
ENTERPRISE

1962, *United States Navy, Official*

Nuclear Powered Attack Aircraft Carrier—*continued*

1 "Enterprise" Class—*continued*

Drawing Notes
Starboard elevation and plan of *Enterprise*. Scale: 150 feet=1 inch.



ATTACK AIRCRAFT CARRIERS (CVA)

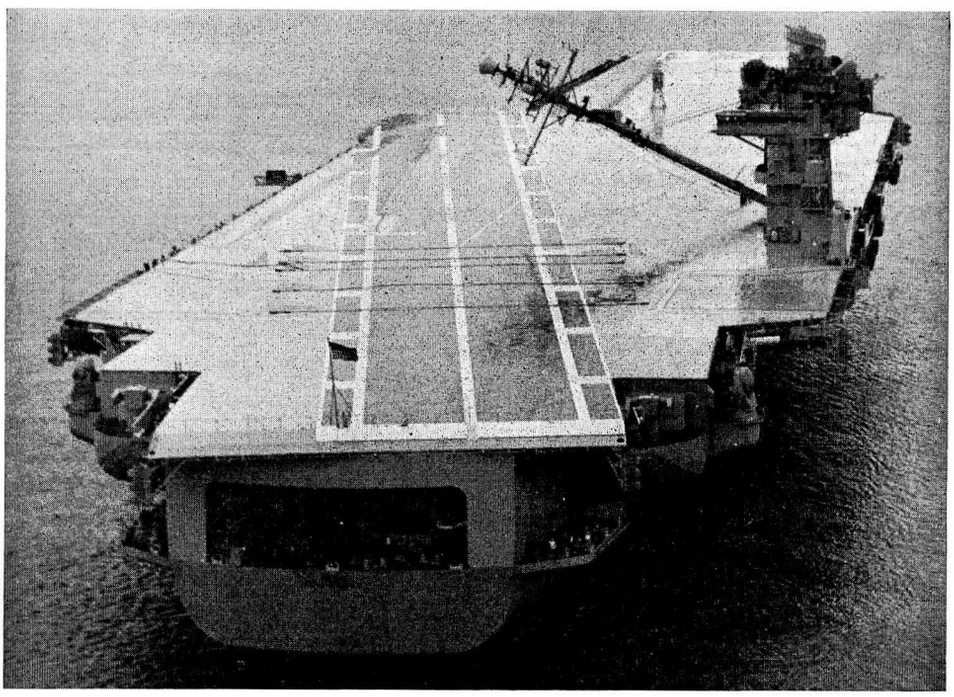
1 New Construction

AMERICA

No.:	CVA 66
Builders:	The Newport News Shipbuilding and Dry Dock Company, Newport News, Virginia
Laid down:	9 Jan. 1961
Displacement:	64,000 tons *standard* (77,000 tons *full load*)
Dimensions:	Flight deck: Length 1,046 feet. Beam: 252 feet.
Aircraft:	3 Attack (VA) and 2 Fighter (VF) squadrons
Guided Missiles:	2 twin "Terrier" launchers, medium range missile system
Catapults:	4 of C-13 steam type
Machinery:	4 geared turbines. 4 shafts. S.H.P.: 280,000=over 35 kts.
Boilers:	8

General Notes
A conventionally powered attack aircraft carrier authorised by Congress under the 1961 new construction programme at a cost of $293,000,000. Slightly larger and heavier than the "Forrestal" class but smaller than the nuclear powered *Enterprise*. Major differences between the new carrier and the earlier ships of the "Forrestal" class are the different elevator arrangement with two lifts before the bridge on the starboard side and one on the after quarter on the port side; a more streamlined island structure; improved long range search radar and an automatic aircraft landing system. To be completed in 1965.

Electronic Notes
The advanced design embodies many of the electronic systems of the nuclear powered aircraft carrier *Enterprise*. These inlcude an improved radar system which has greater range than that of the radar equipment in the "Forrestal" class, and the automatic landing system.



KITTY HAWK (mast hinged down) see next page

1961, *United States Navy, Official*



INDEPENDENCE (starboard broadside aerial view) see next page

1959, *United States Navy, Official*



KITTY HAWK (port bow oblique aerial view) see next page.

1961, *United States Navy, Official*

6 + 1 "Forrestal" Group
2 "Kitty Hawk" Class
CONSTELLATION
KITTY HAWK
4 "Forrestal" Class
FORRESTAL
INDEPENDENCE
RANGER
SARATOGA

Displacement:	60,000 tons *standard* (76,000 tons *full load*) except *Forrestal*), 59,650 tons (75,900 tons *full load*), *Constallation* and *Kitty Hawk* 76,700 tons *full load*.
Dimensions:	Length: 990 (*pp.*), 1,039 (*o.a.*) *Forrestal*, 1,045⅞ (*o.a.*) *Saratoga*, 1,046 (*o.a.*) *Ranger*, *Independence*, 1,047 (*o.a.*), *Kitty Hawk*, *Constellation*, 1,047½ (*o.a.*) feet. Beam: 252 (*extreme width of flight deck*), 129½ (*waterline beam*) feet. Draught: 37 (*max.*) feet. Area of flight deck: 4·1 acres
Guns:	4—5 inch, 54 cal. dual purpose (no guns in *Constellation* and *Kitty Hawk*) see *Gunnery Notes*.
Guided Missiles:	2 twin "Terrier" launchers in *Kitty Hawk* and *Constellation*. ("Forrestal" class have "Regulus" capability).
Aircraft:	90 to 100, according to size and type
Catapults:	4 steam
Machinery:	4 General Electric turbines and gears (*Ranger*, *Saratoga*), Westinghouse (*Forrestal*). 4 shafts. S.H.P.: 260,000 (in *Forrestal*)=33 kts. All others 280,000=35 kts.
Boilers:	8 Babcock & Wilcox (*Forrestal*, *Independence*, *Ranger*), 8 by N.Y. Naval Shipyard (*Saratoga*).
Oil fuel:	7,828 tons
Aviation fuel:	5,882 tons
Complement:	War: 4,142 (443 officers, 3,699 men) Peace: 3,412 officers and men with an air group on board, 2,662 without an air group (see *Complement Notes*).

General Notes

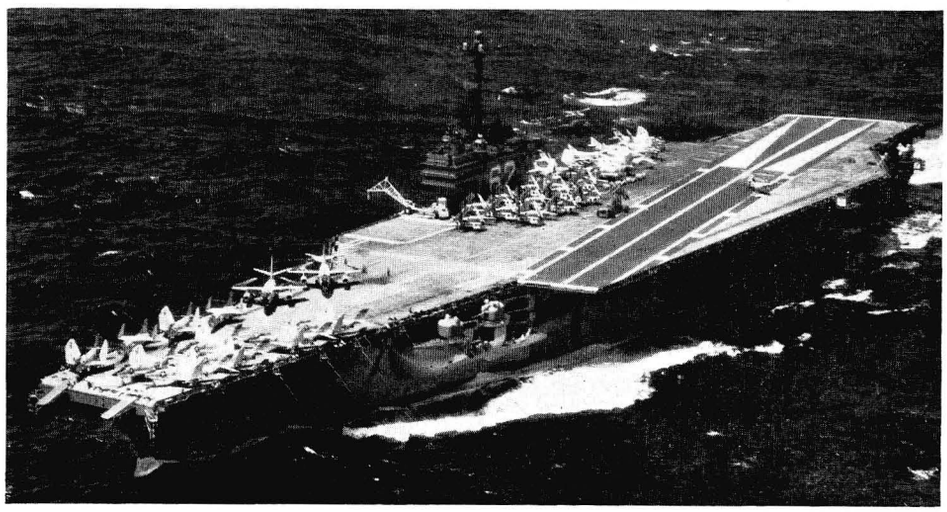
Forrestal was originally to have been flush-decked with retractable bridge. Re-designed with angled deck and the usual fixed island superstructure on the starboard side. Four deck edge elevators and three separate launching areas for aircraft. *Forrestal* (contract awarded 12 July 1951) was named after the Secretary of Defence who was in office when the subsequently cancelled Heavy Carrier *United States* (CVA 58) was named in 1949. *Ranger* authorised 1954 Fiscal year; contract awarded 2 Feb. 1954. *Independence* authorised in 1955 Fiscal appropriations. *Kitty Hawk*, named for the site where the Wright Brothers made their historic flights, was first tentatively to have been named *Congress*. Cost $218,000,000 (*Forrestal*), $209,700,000 (*Saratoga*), $182,000,000 (*Ranger*), $189,311,000 (*Independence*) and $200,000,000 (*Constellation*). *Independence* commissioned on 10 Jan. 1959, *Kitty Hawk* on 2 Apr. 1961 and *Constellation* on 27 Oct. 1961. *Ranger*, *Kitty Hawk* and *Constellation* are scheduled for service in the Pacific Fleet, other three in Atlantic Fleet. A seventh ship of this class, requested in the Fiscal Year 1960 Program, was not approved, but a "Forrestal" class CVA is requested in the Fiscal Year 1963 Program. To cost $245,000,000.

Construction Notes

Flight deck about 80 feet longer than that in the "Medway" class to operate larger, heavier carrier-based naval aircraft of the newest designs. Increased catapult and arresting capacity, larger elevators, higher hangar decks, mirror sight to aid in landing on aircraft, added armour and improved underwater protection. The flight deck is a strength deck by reducing the openings in the hangar sides, bow enclosed up to the flight deck for seaworthiness in all types of weather, island acoustically constructed to block out external noise, air-conditioned berthing quarters, three rudders, *Independence* has sponsons streamlined from below, which is a refinement over other "Forrestal" class carriers. The installation of additional electronic equipment in *Kitty Hawk* delayed her completion.

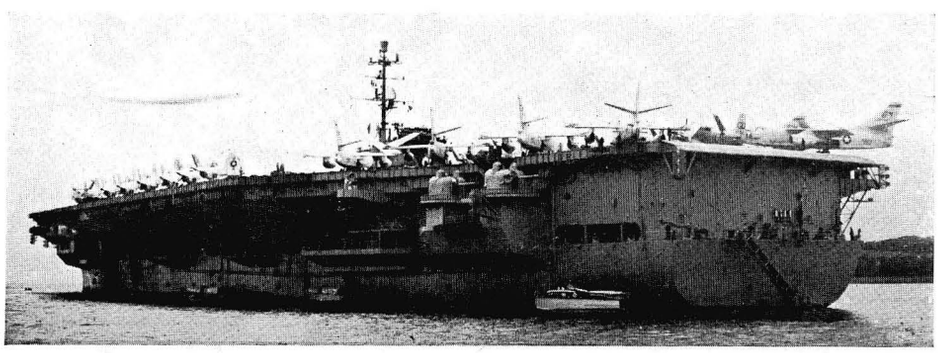
Elevator Notes

The aircraft elevators in *Kitty Hawk* and *Constellation* are located differently from the other four aircraft carriers of the "Forrestal" class, the island structure being sited more aft (see *Appearance Notes*). Largest elevators ever installed in a ship, each capable of lifting 89,000 lbs.



INDEPENDENCE (port bow aerial view)

1959, *United States Navy, Official*



SARATOGA (port quarter view)

1958, *courtesy Ian S. Pearsall, Esq.*

Engineering Notes

Two propellers are 4-bladed and two 5-bladed. *Kitty Hawk* has four 5-bladed propellers. *Saratoga* has machinery arrangements to produce somewhat higher speeds. It is officially stated that *Independence*, *Kitty Hawk* and *Constellation* have substantially the same characteristics, but with somewhat more powerful propelling machinery.

Complement Notes

The complement is being increased by 400 to 800 men per ship for support of new aircraft maintenance.

Appearance Notes

Mast configurations differ. Two masts in *Forrestal*, one in others. In the last two ships, *Kitty Hawk* and *Constellation*, the island is smaller and further aft than the superstructure in the first four, and the lifts are disposed two before the island and one abaft the island on the starboard side, and one on the after quarter on the port side, compared with two abaft the island and one before the island on the starboard side, and one on the forward quarter on the port side in the first four ships.

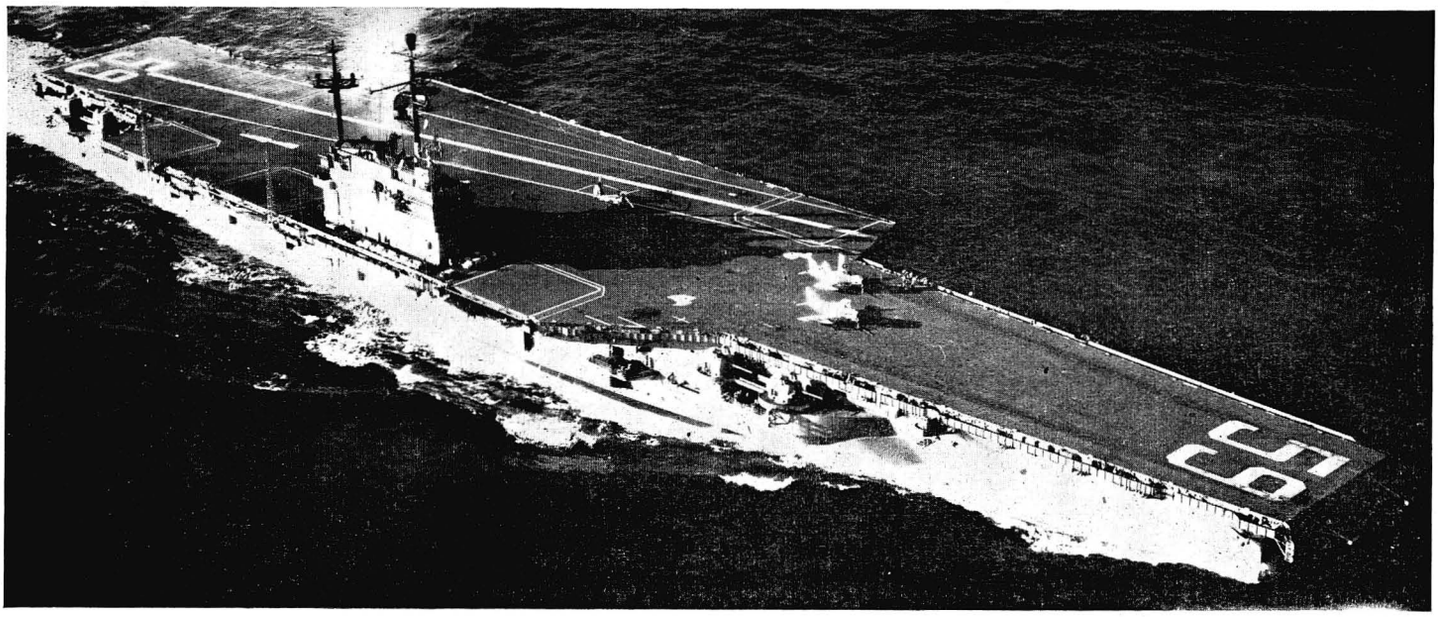
Photograph Notes

Very large starboard broadside view of *Forrestal*, large port aerial near broadside view of *Forrestal*, port broadside view of *Saratoga*, port bow aerial view of *Saratoga* with all elevators down and her mainmast lowered, and bow aerial view of *Ranger* showing catapults and angled deck, in the 1957-58 edition. Port bow aerial view of *Ranger* in the 1957-58 to 1961-62 editions. Bow view of *Ranger* showing island superstructure sponson in 1959-60 edition (Addenda).

Gunnery Notes

The forward gun sponsons have been removed from *Forrestal*, *Independence*, *Ranger* and *Saratoga*. The sponsons interfered with the ship's operations during heavy weather, tending to slow the ship down. These sponsons contained 2—5 inch guns each, thus the armament of these ships has been halved, with only 4—5 inch mounts remaining in the two after sponsons. Sponsons were not built in *Constellation* and *Kitty Hawk*.

No.:	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
CVA 59	*Forrestal*	Newport News S.B. Co.	14 July 1952	11 Dec. 1954	1 Oct. 1955
CVA 60	*Saratoga*	New York Naval Shipyard	16 Dec. 1952	8 Oct. 1955	14 Apr. 1956
CVA 61	*Ranger*	Newport News S.B. Co.	2 Aug. 1954	29 Sep. 1956	10 Aug. 1957
CVA 62	*Independence*	New York Naval Shipyard	1 July 1955	6 June 1958	3 Apr. 1959
CVA 63	*Kitty Hawk*	New York S.B. Corp., N.J	27 Dec. 1956	21 May 1960	9 June 1961
CVA 64	*Constellation*	New York Naval Shipyard	14 Sep. 1957	8 Oct. 1960	19 Jan. 1962

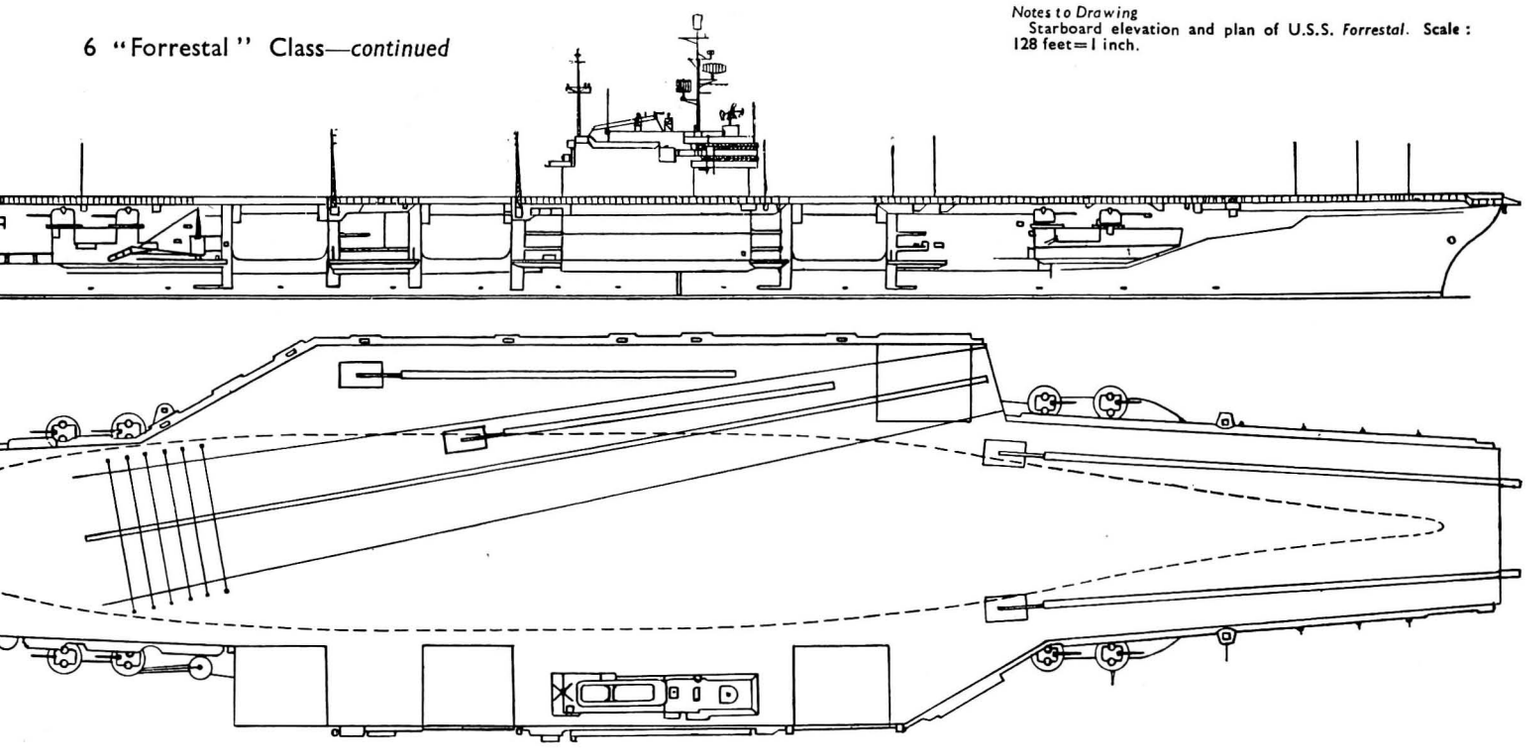


FORRESTAL(starboard bow aerial view)

1958, *United States Navy Official*

6 "Forrestal" Class—*continued*

Notes to Drawing
Starboard elevation and plan of U.S.S. *Forrestal*. **Scale : 128 feet=1 inch.**

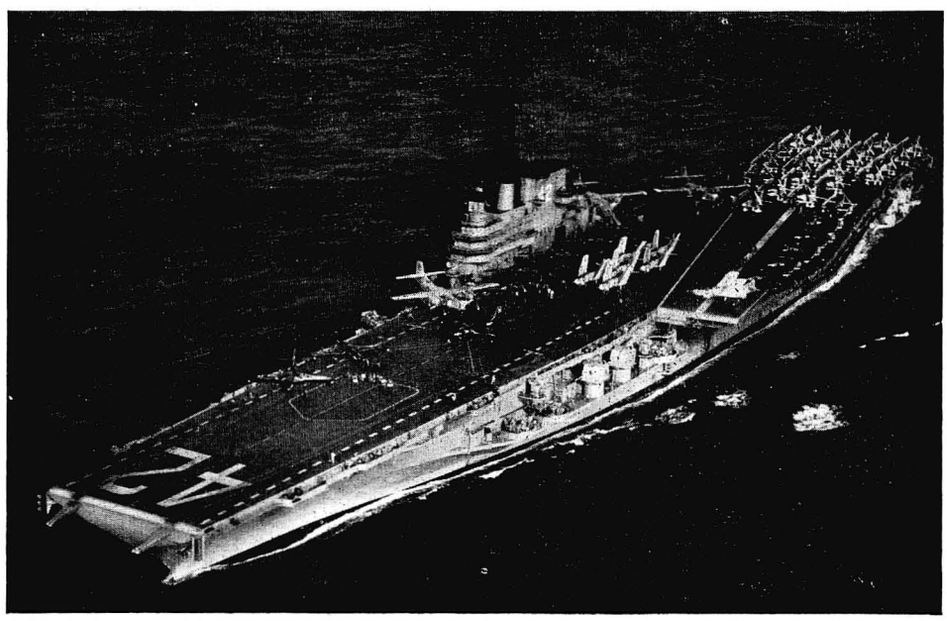


3 "Midway" Class

CORAL SEA
FRANKLIN D. ROOSEVELT (*ex-Coral Sea*)
MIDWAY

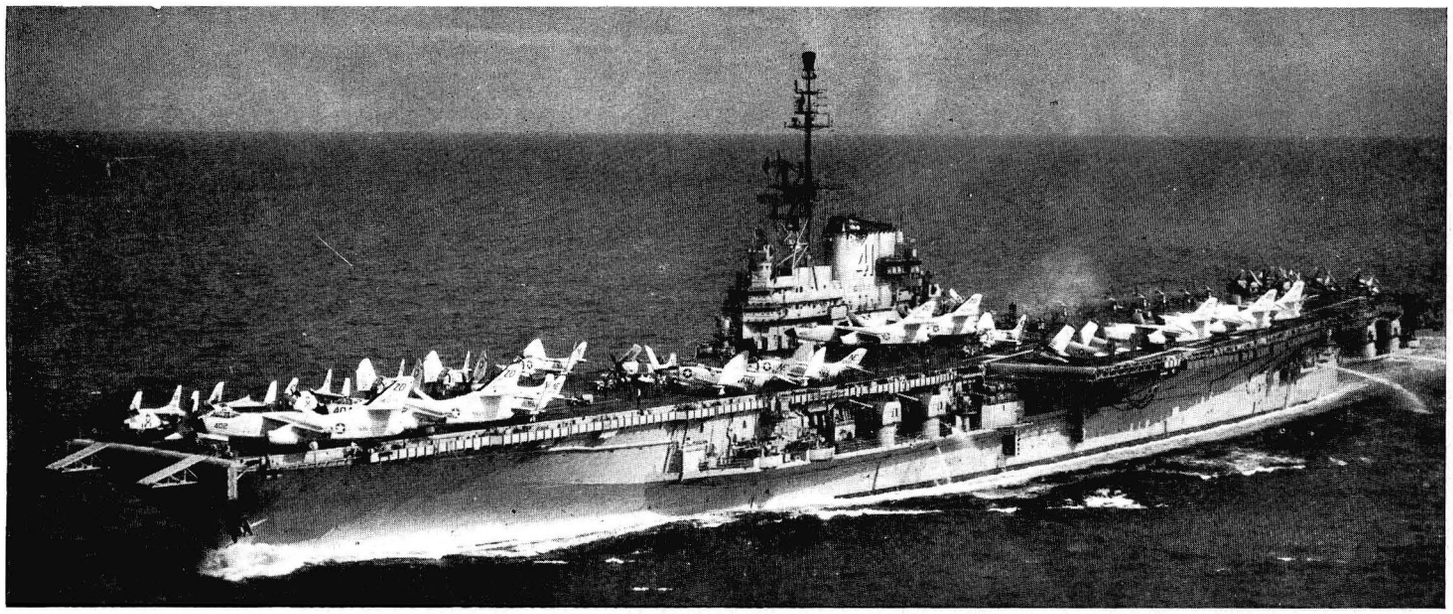
Displacement:	51,000 tons *standard* (*Midway* 62,000 tons *full load*, *Franklin D. Roosevelt* 62,674 tons *full load*, *Coral Sea* 63,400 tons after conversion)
Dimensions:	Length: 900 (*w.l.*), 968 (*o.a.*) feet. Beam: 121 (*w.l.*), 174 (*extreme*) feet. Draught: 36 (*max.*) feet.
Guns:	10—5 inch, 54 cal.; 22—3 inch, 50 cal. (3 inch removed from *Coral Sea*).
Guided Missiles:	"Regulus" in *Franklin D. Roosevelt*
Aircraft:	137 (including large bombers of latest type)
Catapults:	3 steam
Machinery:	Geared turbines. 4 shafts. S.H.P.: 212,000=33 kts.
Boilers:	12 Babcock & Wilcox
Complement:	3,354 officers and men with an air group on board 2,604 without an air group on board Wartime complements are about 20 per cent larger

General Notes
The originally designed displacement of these ships was 45,000 tons. They are the most extensively welded ships in the U.S. Navy, and cost $90,000,000 each. On 6 Sep. 1947 the first carrier-borne guided missile was launched from the flight deck of the *Midway*. On 7 Mar. 1949 a Lockheed P2V (Neptune) long-range bomber able to handle atomic bombs took off with rocket assistance from the *Coral Sea* with a load of 37 tons on a 2,000 mile flight.



FRANKLIN D. ROOSEVELT (port bow aerial view)

1958, *U.S. Navy, Official*



MIDWAY (operational) after conversion with enclosed bow and angled deck 1959. *United States Navy, Official*

3 "Midway" Class—*continued*

Gunnery Notes

Midway and *Franklin D. Roosevelt* originally had eighteen 5 inch. They subsequently mounted fourteen 5 inch, 54 cal. d.p. and now have only ten, four on the port side and six on the starboard side. They now have twin-3-inch mountings in place of the former quadruple 40 mm. mountings.

Armour Notes

Officially stated that these ships are protected by heavy armour, intricate water-tight compartments and an improved system of damage control. Armoured flight deck is 932 × 113 feet, covered with non-skid surface material; it was strengthened in all 3 ships during 1947-48, to enable heavier aircrafr to be handled.

Flight Deck Notes

The angled deck arrangement installed in the "Midway" class aircraft carriers requires only half the arresting gear for normal operations and eliminates crash barriers, releasing considerable topside weight and gallery deck space.

Elevator Notes

The triangular section on the forward end of the forward elevators of these ships (and some modernised "Essex" class) increases the length of the elevators 12 feet along the centreline. The additional length permits easier handling of larger aircraft.

Following modernisation the *Midway* and *Roosevelt* each have two deckedge and one centreline elevator. The *Coral Sea* has three aluminium deck-edge elevators.

Disposition Notes

Coral Sea and *Midway*, Pacific Fleet; *Franklin D. Roosevelt*, Atlantic Fleet.

Modernisation and Conversion Notes

Franklin D. Roosevelt was modernised at Puget Sound Naval Shipyard under the 1954 conversion programme. Now has angled deck, enclosed bow, 3 higher capacity catapults (steam), increased aviation fuel capacity, and broader hull. Remodelling enables her to handle faster and heavier jet aircraft. Conversion completed 6 Apr. 1956 and cost $48,000,000, 53 per cent of ship's original cost.

Modernisation and conversion of *Midway*, including installation of the angled deck, as authorised in the 1954 Fiscal appropriations commenced in Autumn 1955 at Puget Sound Naval Shipyard and was completed on 30 Sep. 1957 when she was recommissioned for duty with the Pacific Fleet.

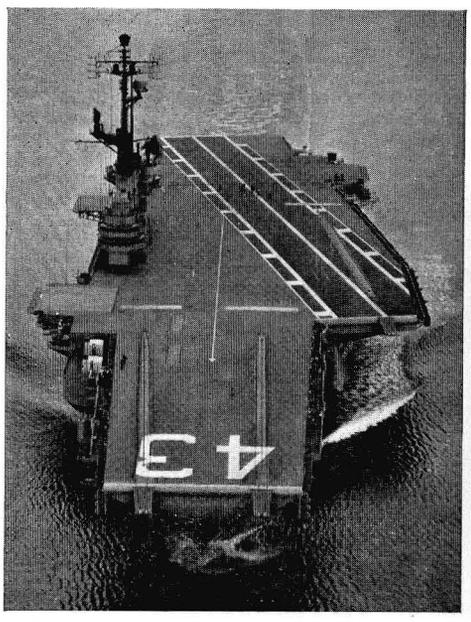
Modernisation and conversion of *Coral Sea* was authorised in the Fiscal 1957 appropriations. Conversion at Puget Sound Naval Shipyard commenced in Apr. 1957. The forward centreline elevator has been replaced by a deck-edge elevator on the starboard side forward, while the port side elevator originally installed has been moved aft. Arresting gear and barricades have been relocated, and extensive changes made in the hangar bay area. The beam at the waterline has been increased by approximately 8 feet. This ship was designed during the Second Wolrd War on the basis of experience with the "Essex" class, but was completed too late to see service. This is the first major conversion she has had, and consists of a completed modernisation, including angled deck, hurricane bow and replacement of two hydraulic catapults by three steam catapults. She was recommissioned on 25 Jan. 1960.

Classification Notes

All originally designated as CVB's but were reclassified as Attack Aircraft Carriers, CVA, in Oct. 1952

Class Notes

Three more ships of this class projected (CVB 44, 56, 57) were cancelled in 1945.



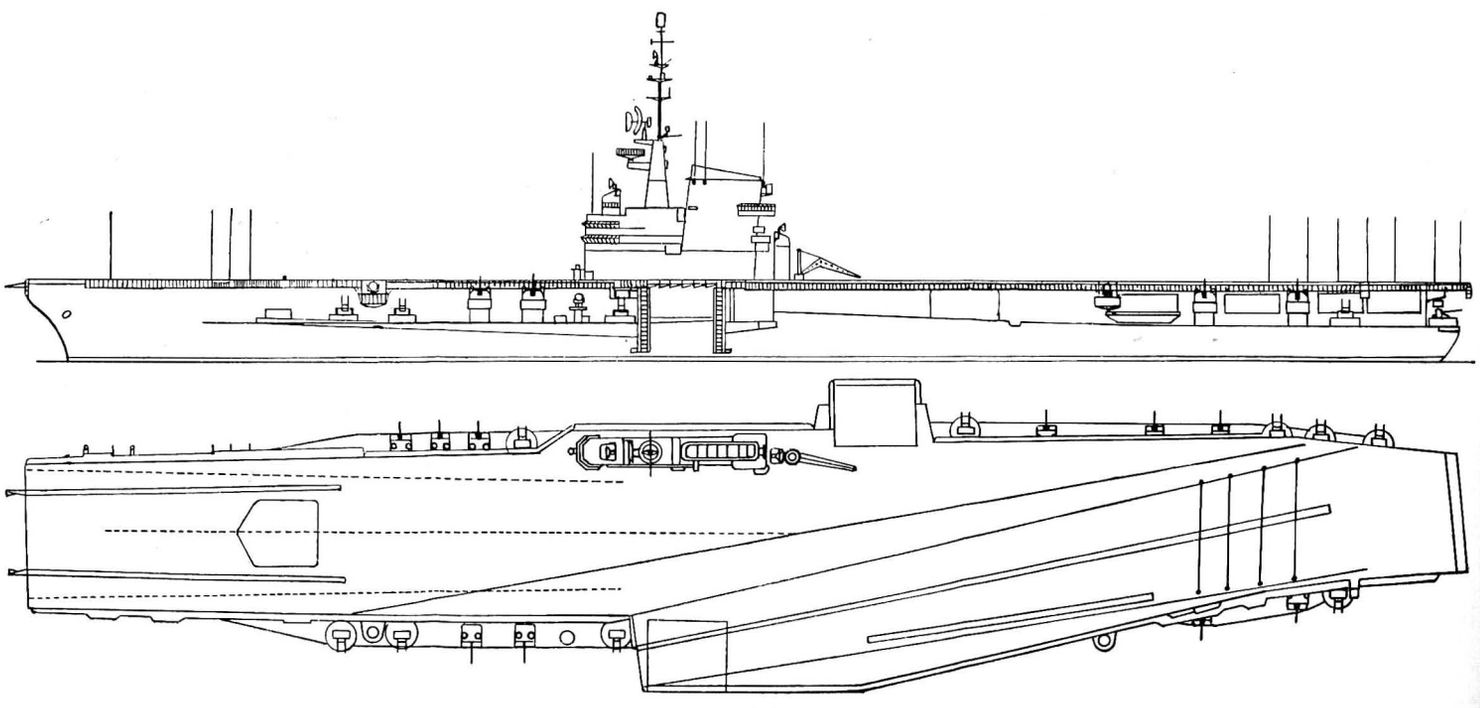
CORAL SEA (after conversion) 1960, *U.S.N. Official*

Notes to Drawing

Port elevation and plan. Drawn in 1957.
Scale: 128 feet = 1 inch.

This represents *Franklin D. Roosevelt* See *Modernisation and Conversion Notes*, and *Appearance Notes*.

No.	Name	Builders	Machinery	Laid down	Launched	Completed
CVA 43	*Coral Sea*	Newport News Co.	Westinghouse	10 July 1944	2 Apr. 1946	1 Oct. 1947
CVA 42	*Franklin D. Roosevelt*	New York Navy Yard	General Electric	1 Dec. 1943	29 Apr. 1945	27 Oct. 1945
CVA 41	*Midway*	Newport News Co.	Westinghouse	27 Oct. 1943	20 Mar. 1945	11 Sep. 1945



3 "Midway" Class—*continued*

Appearance Notes

Franklin D. Roosevelt has truncated conical stanchion and pole mast. *Midway* has lattice mast.

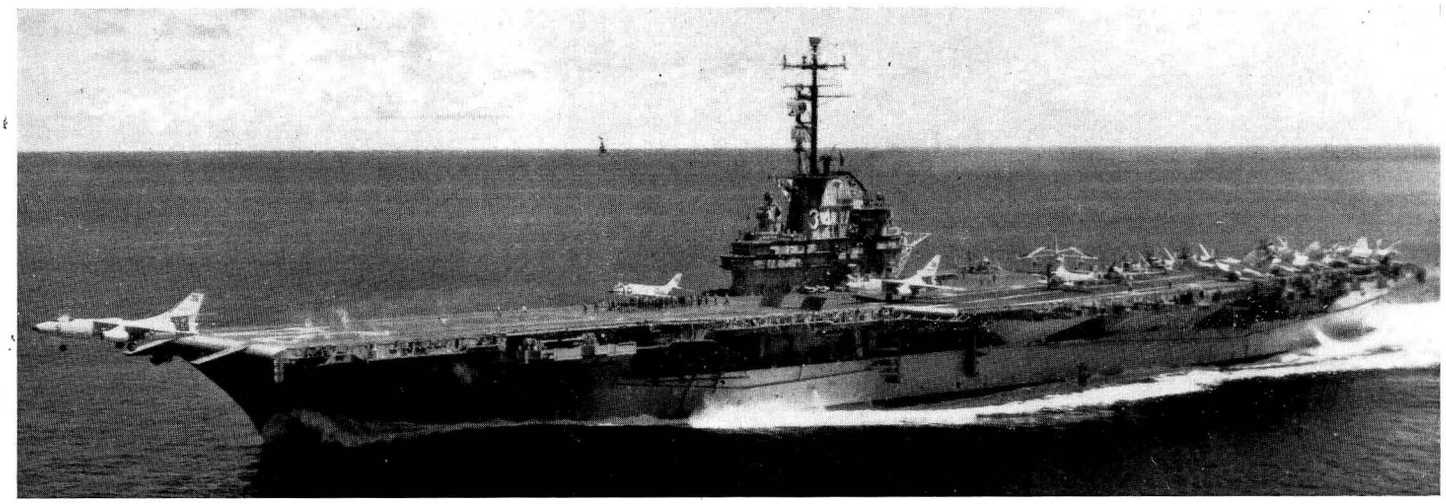
Coral Sea differs in her gun layout from other two. See *Gunnery Notes* on previous page.

Photograph Notes

Starboard bow aerial view and port quarter aerial view of *Franklin D. Roosevelt* after conversion with angle deck and enclosed bow, port bow view of *Midway* before conversion, and port near broadside view of *Coral Sea* before conversion, in the 1957-58 edition. Starboard quarter aerial view of *Midway* in the 1958-59 and 1959-60 editions, starboard quarter surface view of *Franklin D. Roosevelt* in the 1959-60 edition, and counter view of *Franklin D. Roosevelt*, showing flight deck transom and sponsons, on page 476 (Addenda) of the 1959-60 edition.



CORAL SEA (see previous page) 1961, *United States Navy, Official*



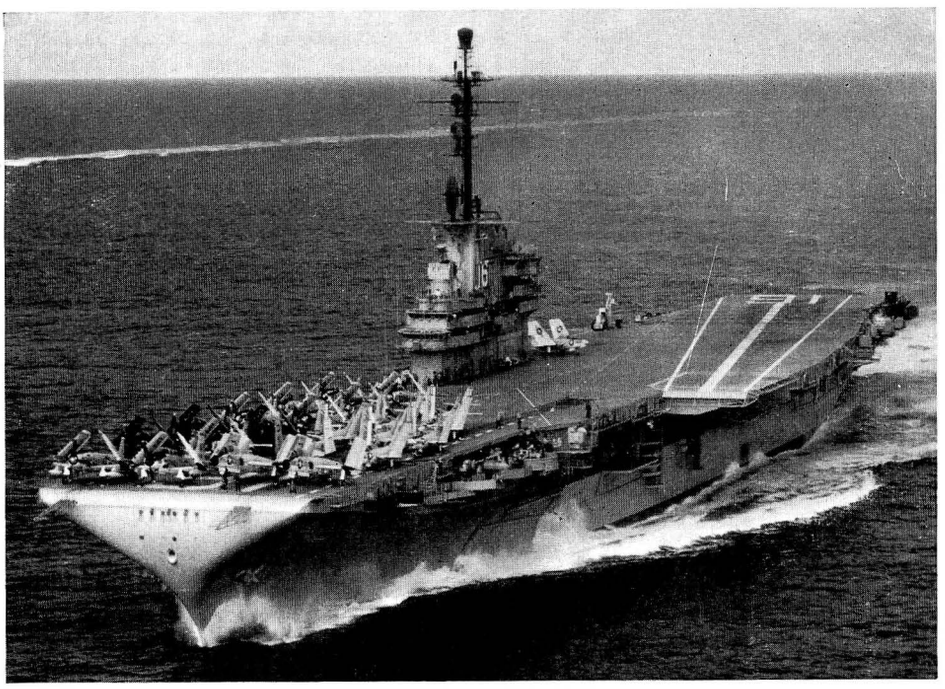
ORISKANY 1962, courtesy Mr. Thomas Moran

5 "Oriskany" Type
(Improved "Essex" Class)

BON HOMME RICHARD
HANCOCK (ex-*Ticonderoga*)
ORISKANY

SHANGRI-LA
TICONDEROGA
(ex-*Hancock*)

Displacement:	33,100 tons *standard* (40,800 to 42,600 tons *full load*). (Displacement of 27c conversions: 41,434 tons *full load*).
Dimensions:	Length: 786 (*pp.*), 840 (*w.l.*), 898½ (*o.a.*) feet. *Oriskany* 904 feet (*o.a.*). *Bon Homme Richard, Lexington, Shangri-La* 889 (*o.a.*) feet. Flight deck: 876 feet. Hangar: 720 feet. Beam: 101 to 103 feet (*hull*), 129 feet (over sponsons). Width: Hangar 93 feet (*max.*); Ship 192 feet (*extreme*). Draught: 31 (*max.*) feet. Dimensions of 27c conversions: Length: 880 feet. Width: 192 feet (*extreme*)
Guns:	8—5 inch, 38 cal. (7—5 inch in *Ticonderoga*, see *Gunnery Notes*); 28—3 inch, 50 cal. in twin mounts
Guided Missiles:	"Regulus" in *Bon Homme Richard, Hancock, Lexington* and *Shangri-La*
Aircraft:	85 to 100
Catapults:	2 steam (*Bon Homme Richard, Hancock, Intrepid, Lexington, Shangri-La, Ticonderoga*)
Armour:	3" sides, 3" decks
Machinery:	Geared turbines. 4 shafts S.H.P.: 150,000=33 kts
Boilers:	8 Babcock & Wilcox
Complement:	2,260 officers and men with an air group on board 1,510 without an air group on board. Wartime complements are about 20 per cent larger



LEXINGTON (showing hurricane bow, forward aircraft park, and angled deck) 1959, *U.S. Navy. Official*

General Notes

Oriskany was the first of a new type to which modified "Essex" class carriers subsequently conformed; her construction was delayed with a view to recasting of plans and she was completed to a modified design with a smaller island, heavier decks and handling gear to operate bigger aircraft, larger lifts, more powerful catapults, a stronger runway and increased stowage for petrol as compared with "Essex" class. Bulges offset the extra weight thus added.

Hancock completed catapult conversion Jan. 1954; first to have new steam catapults and starboard deck-edge elevator; first of 27c conversions, has one-foot wider blister than 27a conversions. Recent catapult conversions completed as follows:—*Intrepid* Apr. 1954, *Ticonderoga* Apr. 1954. Angled deck and enclosed bow conversion completed in *Bennington* 1 Apr. 1955, *Essex* 9 Mar. 1956, *Hornet* 15 Aug. 1956, *Kearsarge* 31 Jan. 1957, *Oriskany* 31 Mar. 1959, *Randolph* 12 Feb. 1956, *Wasp* 1 Dec. 1955, and *Yorktown* 14 Oct. 1955. Angled deck, steam catapult and enclosed bow conversion completed in *Shangri-La* 1 Feb. 1955, *Lexington* 1 Sep. 1955, *Bon Homme Richard* 1 Nov. 1955, *Hancock* 15 Nov. 1956, *Ticonderoga* 1 Apr. 1957, *Intrepid* 2 May 1957. Several, including *Hancock* and *Randolph*, fitted to launch "Regulus" guided missiles. *Shangri-La* has mirror sight landing aid system. *Kearsarge* is equipped with all aluminium surface to flight deck and aluminium elevators; she is the first aircraft carrier so fitted.

Gunnery Notes

One 5-inch mount was removed from *Ticonderoga* during her 1962 overhaul.

Building Notes

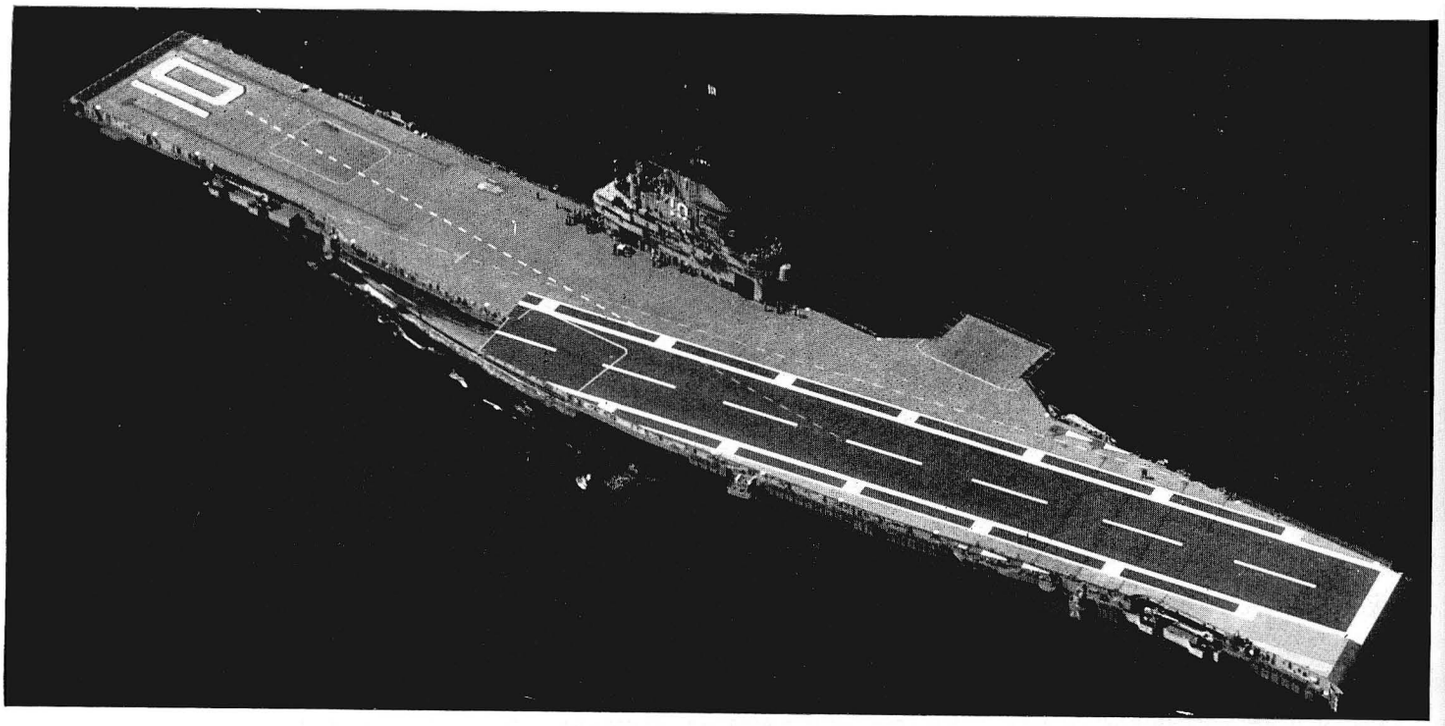
For builders and construction dates of above modernised ships of the "Essex" class see next page.

Conversion Notes

Oriskany has undergone very extensive conversion and modernisation amounting to reconstruction at San Francisco including the following improvements: Angled deck; Hurricane (enclosed) bow; Arresting gear able to handle larger and heavier aircraft; Two high capacity steam catapults; Increased aircraft elevator capacity and size; Modern special weapon spaces; Air-to-air missile stowage and facilities; Increased aviation fuel stowage for jet fuel.

Flight deck of increased strength to permit landing A3D type aircraft. One third of the deck is of aluminium planking

She was the last of the Second World War built aircraft carriers to receive the angled deck, hurricane bow, and steam catapults. She recommissioned on 7 Mar. 1959.



YORKTOWN (port quarter oblique aerial view) 1959 *United States Navy Official*

Support Aircraft Carriers (CVS)
Amphibious Assault Ships (LPH)
Auxiliary Aircraft Transports (AVT)
19 "Essex" Class

ANTIETAM
BENNINGTON
BOXER
BUNKER HILL
ESSEX
FRANKLIN
HORNET (ex-*Kearsarge*)
INTREPID
KEARSARGE
LAKE CHAMPLAIN
LEXINGTON (ex-*Cabot*)
LEYTE (ex-*Crown Point*)
PHILIPPINE SEA (ex-*Wright*)
PRINCETON
RANDOLPH
TARAWA
VALLEY FORGE
WASP (ex-*Oriskany*)
YORKTOWN (ex-*Bon Homme Richard*)

Displacement: 27,100 tons designed, 30,800 *standard* (38,500 tons *full load*)

Dimensions: Length: 786 (*pp.*), 840 (*w.l.*), 888; (*o.a.*) feet. *Franklin* is 878 (*o.a.*) feet: *Bunker Hill*, 879 (*o.a.*) feet, *Bennington*, *Tarawa* and *Valley Forge*, 889 (*o.a.*) feet, *Essex* 898 (*o.a.*) feet, *Hornet*, *Lake Champlain* and *Wasp*, 899 (*o.a.*) feet. Flight deck: 876 feet. Hangar: 720 feet
Beam: 93 feet, *Hornet*, *Lake Champlain*, *Wasp* 101 feet (hull). 113 feet (over sponsons).
Width: Hangar 93 feet (*max.*), Ship 136 feet (*extreme*). *Wasp* 154 feet, *Antietam* 154 feet (including angled deck).
Draught: 30¾ (*max.*) feet

Guns: 12—5 inch, 38 cal., 44 to 72—40 mm. AA., 52—20 mm. (quadruple mounts). Some active ships have 3-inch guns in place of 40 mm. mounts., 36 to 52—20 mm. (twin mounts (see *Gunnery Notes*)

Guided Missiles: "Regulus" in *Bennington*, *Lake Champlain* and *Randolph*

Aircraft: 95 to 100 (107 have been carried by close stowage), 50 in CVS 32. 36, 45, 47 (see notes). *Boxer* and *Princeton* carry 30 to 40 HR2S helicopters

Armour: 3"—2" side amidships, 3" hangar deck, 1½" flight deck, 1½" upper deck

Machinery: Westinghouse geared turbines. 4 shafts. S.H.P.: 150,000 = 33 kts.

Boilers: 8 Babcock & Wilcox

Complement: 1,300 (reduced from 2,100 (ship's company plus air group personnel) *peacetime*; 2,800 *wartime*)

General Notes

First of class ordered 1940. *Essex* was built in 20 months, *Yorktown* in 17¼ months. Later ships of this class of improved design, with stronger flight decks, and were more thoroughly sub-divided. *Princeton* launched the new guided missile "Regulus" at sea. The weapon can be installed on a variety of naval ships at low cost and used multi-operationally. 14 units of this class have been or are being modernised on similar lines to *Oriskany*, completed in modernised state (see preceding page). CVSs are undergoing conversion for anti-submarine warfare. Conversion of *Leyte* was completed with aircraft complement reduced to 50 and operating crew to 1,300 (half previous recent complement). *Antietam* replaced *Saipan* as training ship. As Amphibious Assault Ships *Boxer* (Atlantic Fleet) and *Princeton* (Pacific Fleet) carry 30 HR2S helicopters and a Marine detachment of 10 officers and 323 men, and have accommodation for 1,650 troops, but no structural alterations were made.

Engineering Notes

In Nov., 1945, *Lake Champlain* made Atlantic crossing from Gibraltar to Newport News in 4 days, 8 hours, 51 minutes, an average speed of 32·048 kts. *Philippine Sea* made Pacific crossing from Yokohama to San Francisco in 7 days, 13 hours, an average speed of 25·2 kts.

Sonar Notes

Randolph has been fitted with sonar, the first of its type in any aircraft carrier.



BENNINGTON (port bow oblique aerial view showing hurricane bow and angled deck) 1961, *U.S. Navy, Official*

No.	Name	Builders	Laid down	Launched	Completed
CVS 9	*Essex*	Newport News S.B. & D.D. Co.	28 Apr. 1941	31 July 1942	31 Dec. 1942
CVS 10	*Yorktown*		1 Dec. 1941	21 Jan. 1943	15 May 1943
CVS 11	*Intrepid*		1 Dec. 1941	26 Apr. 1943	16 Aug. 1943
CVS 12	*Hornet*		3 Aug. 1942	29 Aug. 1943	29 Nov. 1943
AVT 8 (ex-CVS 13)	*Franklin*		7 Dec. 1942	14 Oct. 1943	31 Jan. 1944
CVA 14	*Ticonderoga*		1 Feb. 1943	7 Feb. 1944	10 Oct. 1944
CVS 15	*Randolph*		10 May 1943	28 June 1944	9 Oct. 1944
CVS 16	*Lexington*	Bethlehem Steel Co., Quincy	15 July 1941	26 Sep. 1942	17 Mar. 1943
AVT 9 (ex-CVS 17)	*Bunker Hill*		15 Sep. 1941	7 Dec. 1942	24 May 1943
CVS 18	*Wasp*		18 Mar. 1942	17 Aug. 1943	24 Nov. 1943
CVA 19	*Hancock*		26 Jan. 1943	24 Jan. 1944	15 Apr. 1944
CVS 20	*Bennington*	New York Navy Yard	15 Dec. 1942	26 Feb. 1944	6 Aug. 1944
LPH 4 (ex-CVS 21)	*Boxer*	Newport News Co.	13 Sep. 1943	14 Dec. 1944	16 Apr. 1945
CVA 31	*B. H. Richard*	New York Navy Yard	1 Feb. 1943	29 Apr. 1944	26 Nov. 1944
AVT 10 (ex-CVS 32)	*Leyte*	Newport News Co.	21 Feb. 1944	23 Aug. 1945	11 Apr. 1946
CVS 33	*Kearsarge*	New York Navy Yard	1 Mar. 1944	5 May 1945	2 Mar. 1946
CVA 34	*Oriskany*	do.	1 May 1944	13 Oct. 1945	25 Sep. 1950
CVS 36	*Antietam*	Philadelphia Navy Yard	15 Mar. 1943	20 Aug. 1944	28 Jan. 1945
LPH 5 (ex-CVS 37)	*Princeton*	do.	14 Sep. 1943	8 July 1945	18 Nov. 1945
CVA 38	*Shangri-La*	Norfolk Navy Yard	15 Jan. 1943	24 Feb. 1944	15 Sep. 1944
CVS 39	*Lake Champlain*	do.	15 Mar. 1943	2 Nov. 1944	3 June 1945
AVT 12 (ex-CVS 40)	*Tarawa*	do.	1 Mar. 1944	12 May 1945	8 Dec. 1945
LPH 8 (ex- CVS45)	*Valley Forge*	Philadelphia Navy Yard	7 Sep. 1944	18 Nov. 1945	3 Nov. 1946
AVT 11 (ex-CVS 47)	*Philippine Sea*	Bethlehem Co., Quincy	19 Aug. 1944	5 Sep. 1945	11 May 1946

CVA = Attack Aircraft Carrier
CVS = ASW Support Aircraft Carrier
LPH = Amphibious Assault Ship
AVT = Auxiliary Aircraft Transport



VALLEY FORGE

1962, *courtesy Mr. W. H. Davis*

19 " Essex " Class—*continued*

Gunnery Notes

The number of 5-inch varies considerably. *Randolph* has only 8—5 inch. *Yorktown* appears to have no 5 inch guns on the starboard side aft. *Antietam* has a much reduced armament. The 3 inch stern sponsons and guns and some broadside 3 inch mountings and sponsons have been removed from *Bennington* and other ships. It is reported that such 3-inch guns will be removed from all the carriers before long to further reduce topside weight.

Recent Conversion Notes

The FRAM II conversion which *Randolph* underwent at Norfolk Naval Shipyard included closed circuit television for briefing pilots, modern combat information centre for ant-submarine warfare missions.

Kearsarge underwent FRAM II conversion in 1961-62. *Boxer* has completed a 7-month FRAM II conversion as has *Princeton*. *Essex* has undergone a 6-month modernisation including the installation of sonar.

Wasp has been converted to angled deck (first modernised carrier to get CVS status—*Antietam* has an earlier version of the angled deck, the first experimental angled deck installation) and *Hornet* and *Yorktown* have been converted to angled deck.

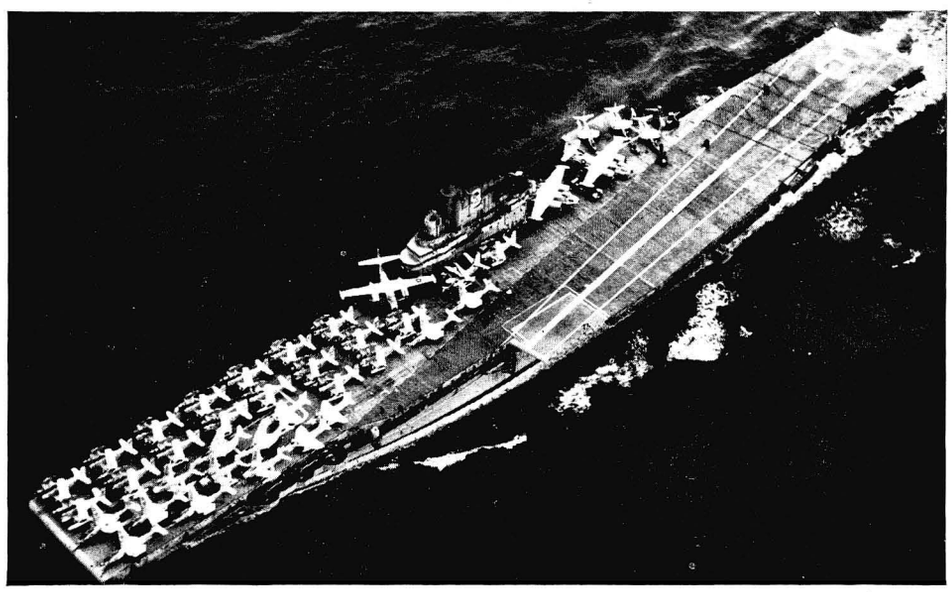
The island superstructure of the *Philippine Sea* has been modified, funnel and mast having been united, with twin clinker screen on the funnel. *Princeton* and *Leyte* have been similarly modified and other CVS will also be so fitted. *Tarawa* has not yet been altered.

Boxer, *Leyte* (decommissioned May 1959), *Philippine Sea* (decommissioned 1959), *Princeton*, *Tarawa* and *Valley Forge* (decommissioned in 1960)—also *Antietam* (decommissioned in 1960 and replaced as training carrier by *Shangri-La*), apart from her angled deck—have undergone no major conversions.

Reclassification Notes

All above ships originally designated CV, were redesignated CVA (Attack Aircraft Carriers) in Oct. 1952, but *Antietam*, *Bunker Hill*, *Franklin* and *Leyte* were again redesignated from CVA to CVS (ASW Support Aircraft Carriers) in July 1953; *Princeton* and *Valley Forge* Jan. 1954; *Tarawa* 10 Jan. 1955; *Philippine Sea* 15 Nov. 1955; *Boxer* 1 Feb. 1956.

Lake Champlain was reclassified as CVS on 1 Aug. 1957. *Wasp* was reclassified as CVS on 1 Nov. 1956. *Yorktown* was reclassified as CVS on 1 Sep. 1957. *Horne* was reclassified as CVS on 27 June 1958. *Kearsarge* and *Randolph* were reclassified as CVS on 1 Oct. 1958 and 31 Mar. 1959, respectively. *Boxer* and *Princeton* were reclassified as LPH on 30 Jan. 1959 and 2 Mar. 1959, respectively. *Bunker Hill*, *Franklin*, *Leyte* and *Philippine Sea* were reclassified as AVT on 15 May 1959. *Bennington* was reclassified as CVS on 30 June 1959. *Essex* was reclassified as CVS on 8 Mar. 1960. *Valley Forge* was reclassified as LPH in June 1961. *Tarawa* was reclassified as AVT in 1961. *Intrepid* was reclassified as CVS on 31 Mar. 1962. *Lexington* was reclassified as CVS in 1962.



ESSEX (port bow oblique aerial view, showing aircraft park and angled deck) 1959, *U.S. Navy, Official*

Appearance Notes

Later ships of this class have bow and stern of modified form. Flight deck of *Antietam* angles 8 degrees, 9 minutes to port with arresting gear oriented to the centre line of her angled deck. If this modification is permanently adopted and applied to other ships a future change may be the transfer of the elevator to the starboard side. The angled deck will be incorporated into the design of all new aircraft carriers.

Sponson Notes

The stern of the *Bennington* and other carriers is smoothed off and streamlined after removal of the 3-inch gun housings and overhanging sponsons.

Marine Complement Notes

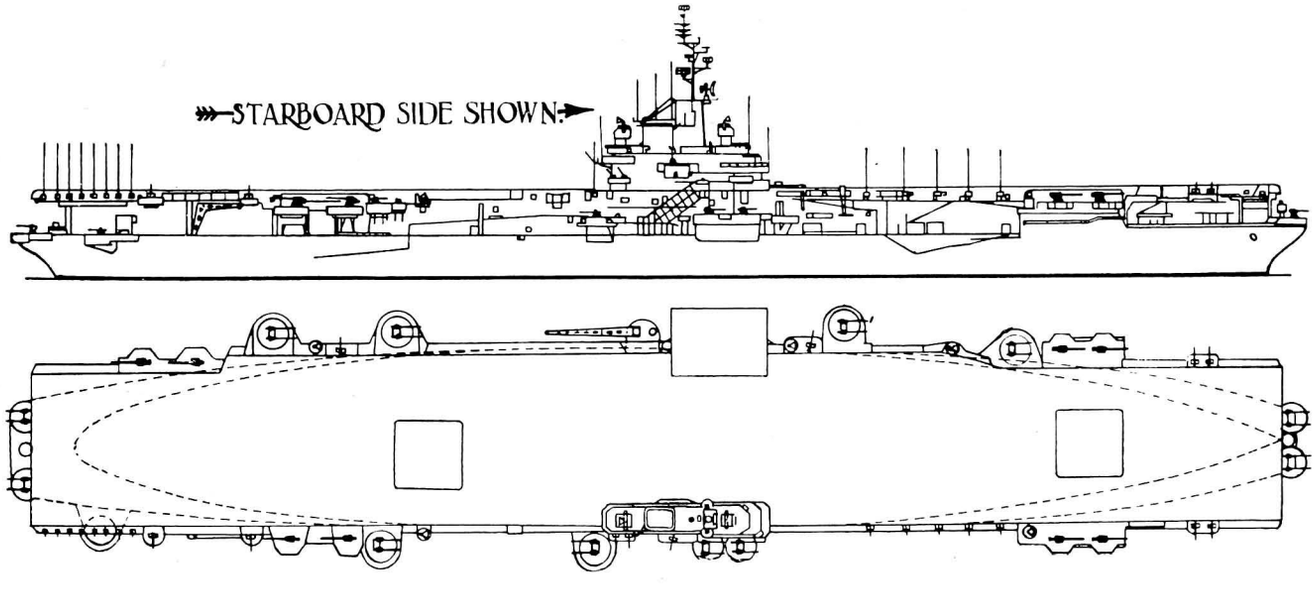
In addition to their crews of 1,000 *Boxer*, *Priceton* and *Valley Forge* carry a Marine Battalion Landing Team of 1,200 to 1,500 officers and men, plus crews for 40 helicopters.

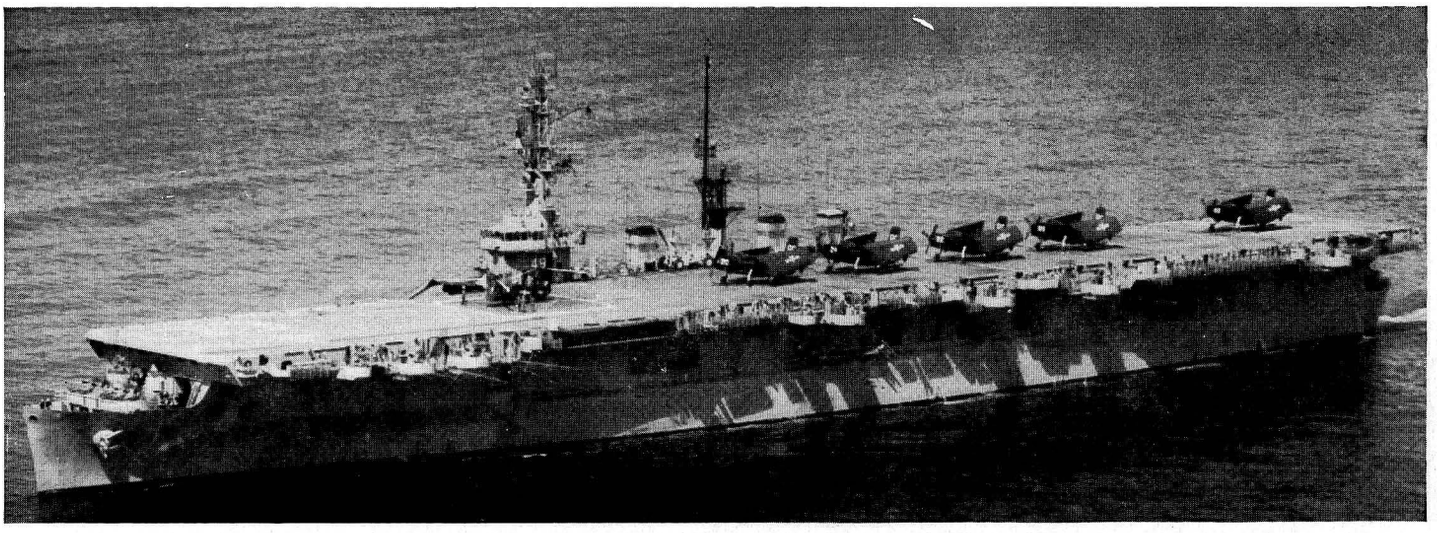
Photograph Notes

Port broadside aerial view of *Randolph* after conversion and port bow aerial view of *Bon Homme Richard* showing enclosed bow and angle deck, in the 1957-58 edition. Port quarter overhead aerial near-plan view of *Randolph* showing angled deck and aircraft, and port bow oblique aerial view of *Kearsarge* in the 1958-59 and 1959-60 editions. Large starboard broadside view of *Randolph* firing a Regulus guided missile, port bow oblique aerial view of *Valley Forge* and starboard bow surface view of *Tarawa* in the 1957-58 to 1959-60 editions. Port bow overhead aerial view of *Antietam* and starboard broadside surface view of *Wasp* in the 1953-54 to 1959-60 editions.

Notes to Drawing

Starboard elevation and plan. Represents improved " Essex " class before conversion to hurricane bow and canted deck. Scale: 128 feet=1 inch.



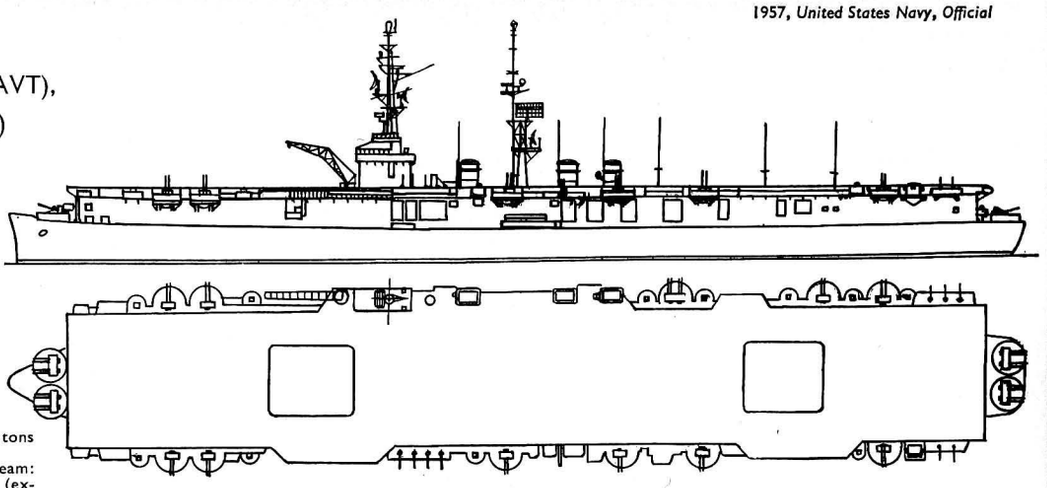


WRIGHT

1957, *United States Navy, Official*

Command Ships (CC)

Ex-Auxiliary Aircraft Transports (AVT), *Former* Aircraft Carriers (CVL)



	SAIPAN	**WRIGHT**
Name:	*Saipan*	*Wright*
	CC 3 (ex-AVT 6, ex-CVL 48)	CC 2 (ex-AVT 7, ex-CVL 49)
Builders:	New York Shipbuilding Corporation, New Jersey	New York Shipbuilding Corporation, New Jersey
Laid down:	10 July 1944	21 Aug. 1944
Launched:	8 July 1945	1 Sep. 1945
Completed:	14 July 1946	9 Feb. 1947

Displacement:	14,500 tons *standard* (20,060 tons *full load*)
Dimensions:	Length: 683½ (*o.a.*) feet. Beam: 76¾ feet (*hull*). Width: 115 (*extreme*) feet. Draught: 28 (*max.*) feet.
Guns:	40—40 mm. AA., 32—20 mm. AA.
Aircraft:	See *Notes*
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 120,000=33 kts.
Boilers:	8 Babcock & Wilcox
Fuel:	2,400 tons
Complement:	See *Notes*

General Notes

Modifications of the "Baltimore" class heavy cruiser design laid down and built as aircraft carriers (CVLs). Originally carried over 50 aircraft. The hull below the main (hangar) deck duplicates that of the Camden-built heavy cruisers *Bremerton, Fall River, Macon* and *Toledo*. *Saipan* was employed as an experimental ship for testing jet propelled aircraft, as well as improvements in radar equipment. She then operated successfully a squadron of McDonnell Phantom fighters. She was the training ship for student pilots at Pensacola until replaced by the *Antietam*. Both ships had four funnels but have had fore funnel removed (see two photos of *Saipan* and another photo of *Wright* in the 1957-58 edition). As aircraft carriers the original war complement was 1,821 (243 officers and 1,578 men, but only 775 of 1,007 enlisted men were retained in *Saipan* as training carrier.

Conversion Notes

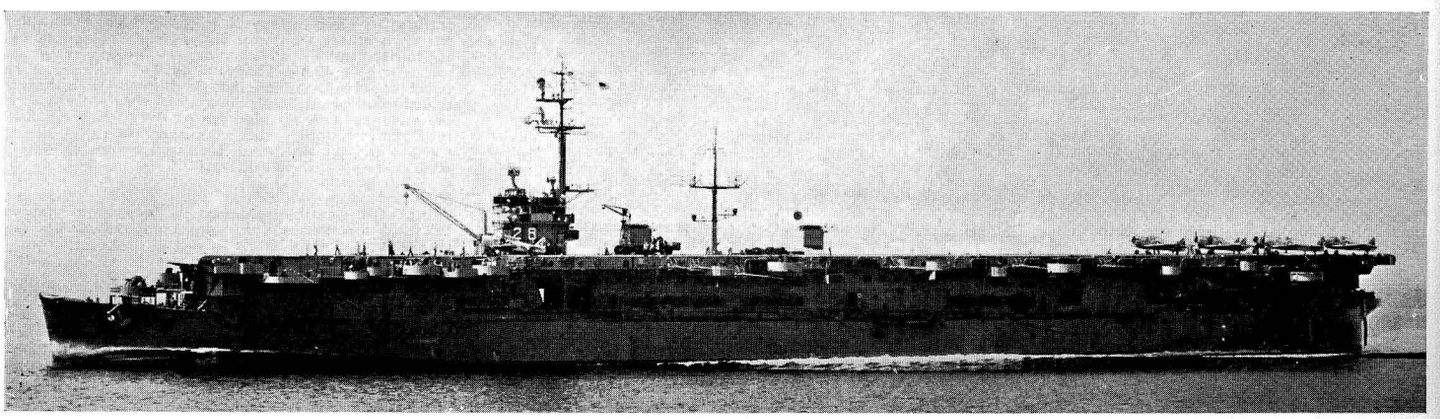
Wright is being converted into a command ship at Puget Sound Naval Shipyard under the Fiscal Year 1962 Conversion Program at a cost of $25,000,000. The conversion of *Saipan* into a Command Ship is requested in the Fiscal Year 1963 **conversion programme. See illustration in Addenda.**

Notes to Drawing

Port elevation and plan drawn in 1957. Scale: 128 feet= 1 inch.

Reclassification Notes

Both ships were reclassified from aircraft carriers (CVL) **to aircraft transports (AVT) on 15 May 1959. *Wright* was reclassified from AVT 7 to CC 2 in 1962.**



CABOT

Added 1957, *United States Navy, Official*

Auxiliary Aircraft Transports (AVT)

Former Aircraft Carriers (CVL)

3 "Cabot" Class

CABOT (ex-*Wilmington*) **SAN JACINTO**
MONTEREY (ex-*Dayton*) (ex-*Reprisal*, ex-*Newark*)

Displacement:	11,000 tons *standard* (15,800 tons *full load*)
Dimensions:	Length: 600 (*w.l.*), 623 (*o.a.*) feet. Beam: 71½ feet (*hull*). Width: 109 (*extreme*) feet. Draught: 20 (*mean*) 26 (*max.*) feet
Guns:	16—40 mm. AA., 40—20 mm. AA.
Aircraft:	See *Notes*
Machinery:	General Electric geared turbines 4 shafts. S.H.P.: 100,000=32 kts.
Boilers:	8 Babcock & Wilcox
Complement:	See *Notes*

General Notes

These vessels were all laid down as light cruisers of the "Cleveland" class, described on a later page, but were ordered to be completed as aircraft carriers. Originally carried over 40 aircraft. *Princeton* (CVL 23 ex-*Tallahasses*), lost in action. *Cabot* was converted to ASW, i.e. modified to enable her to specialise in anti-submarine warfare, and classed as a "Hunter-Killer Carrier" with strengthened flight and hangar decks, large port side catapult, revised magazine arrangements, new electronic gear, corrected stability to counter added top weight, and a maximum of 26 aircraft. She was practically modernised to a new type. As aircraft carriers the original complement was 1,109 (159 officers and 950 men) to 1,183 (peace scheme), 1,400 (war scheme). All three ships are now decommissioned.

Transfer Notes

Langley was transferred to the French Navy in 1951 under the Mutual Defense Assistance Program. The *Belleau Wood* (CVL 24) of this class was transferred to France in Sep. 1953 having been loaned for five years, subsequently extended for five more, but she was returned by France in Sep. 1960 and stricken from the Navy List.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
AVT 2 (ex-CVL 26)	*Monterey*	New York S.B. Corpn.	29 Dec. 1941	28 Feb. 1943	17 June 1943
AVT 3 (ex-CVL 28)	*Cabot*		16 Aug. 1942	4 Apr. 1943	24 July 1943
AVT 5 (ex-CVL 30)	*San Jacinto*		26 Oct. 1942	26 Sep. 1943	15 Dec. 1943

Gunnery Notes

Were originally designed to include 4—5 inch in armament.

Funnel Notes

Since conversion *Cabot* has had only two of her original four funnels. *Monterey* also now has only two funnels.

Reclassification Notes

All these ships were reclassified from small aircraft carriers (CVL) to aircraft transports (AVT) on 15 May 1959.

Drawing Notes

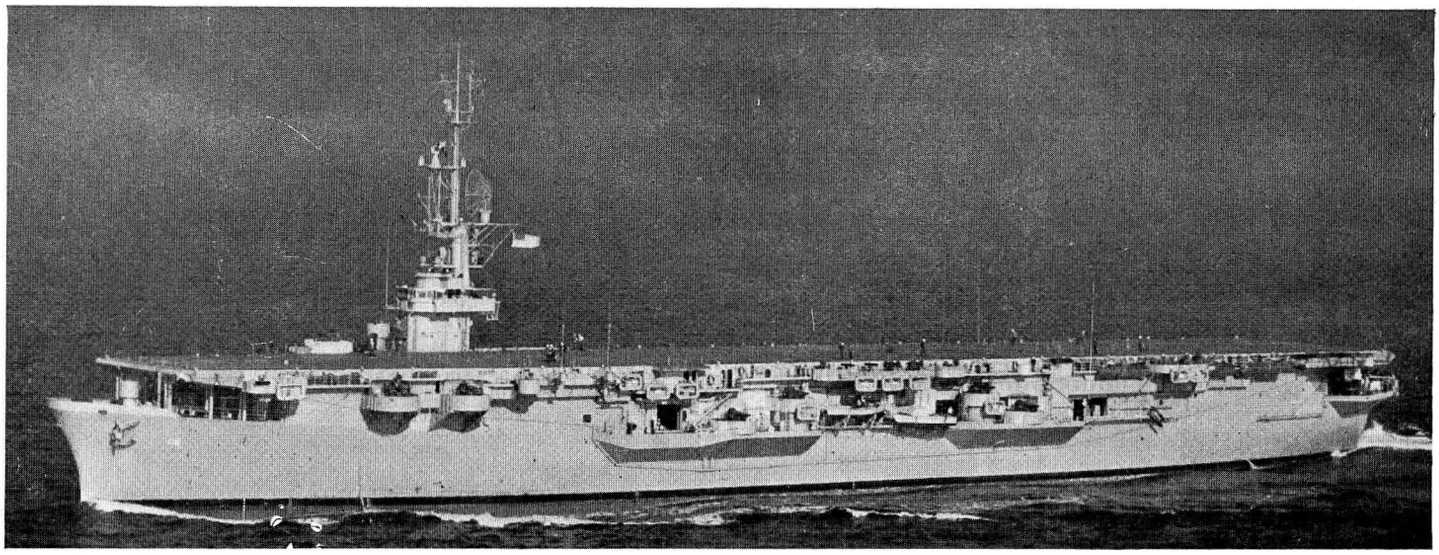
A port elevation and plan drawn at a scale of 128 feet= 1 inch appears in the 1959-60 and earlier editions.

Photograph Notes

Port bow aerial photo of *Monterey* in the 1957-58 edition

Recent Disposals

Bataan, AVT 4, was stricken on 1 Sep. 1959 and *Cowpens*, AVT 1, on 1 Nov. 1959, *Independence* CVL 22, was expended in atom bomb and radiological experiments from 1946 to 30 Jan. 1951.



BADOENG STRAIT

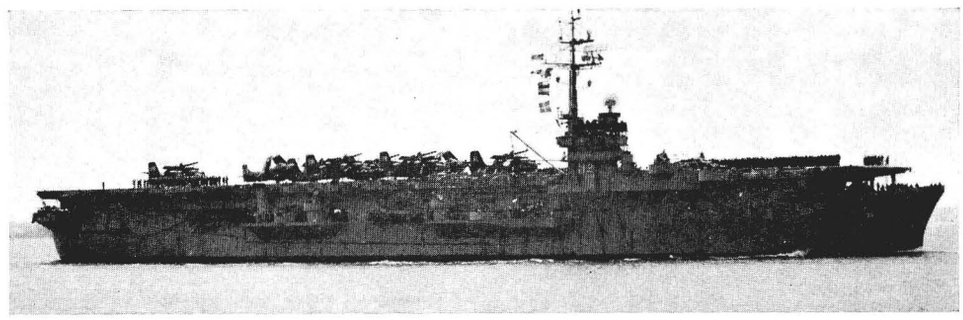
Added 1957, *United States Navy*, *Official*

Rated as **Aircraft Ferrys** (AKV)

Former Escort Carriers (CVE, CVHE)

12 " Commencement Bay " Class

BADOENG STRAIT (*ex-San Alberto Bay*)
COMMENCEMENT BAY (*ex-St. Joseph's Bay*
CAPE GLOUCESTER (*ex-Willapa Bay*)
GILBERT ISLANDS (*ex-St. Andrew's Bay*)
KULA GULF (*ex-Vermilion Bay*)
POINT CRUZ (*ex-Trocadero Bay*)
RABAUL
RENDOVA (*ex-Mosser Bay*)
SAIDOR (*ex-Saltery Bay*)
SIBONEY (*ex-Frosty Bay*)
TINIAN
VELLA GULF (*ex-Totem Bay*)



SIBONEY

Added 1961, *Official*

Displacement:	11,373 tons *standard* (24,275 tons *full load*)
Dimensions:	Length: 557 (*o.a.*) feet Beam: 75 feet (*hull*). Width: 105 feet (*extreme*). Draught: 30⅜ (*max.*) feet
Guns:	1—5 inch, 38 cal., 24—40 mm. AA., 24—20 mm. AA., 4 rocket launchers
Aircraft:	See *Notes*
Machinery:	Geared turbines. 2 shafts. S.H.P.: 16,000 = 19 kts.
Boilers:	2
Complement:	924 (peace). Over 1,000 (war)

General Notes

All built by Todd Pacific Shipyards, Tacoma. Design modelled on that of " Suwanee " class mercantile hull conversions, see 1958-59 and earlier editions. Originally carried 34 aircraft. As escort aircraft carriers the complement was 924 (peace) and over 1,000 (war). With the decommissioning of *Siboney* and *Badoeng Strait* in 1956-57 all of this class were out of commission, in reserve.

Class Notes

Sixteen more ships of this class, *Bastogne*, *Eniwetok*, *Lingayen*, *Okinawa*, and CVE 128-139, were cancelled in Aug. 1945.

Conversion Notes

It is anticipated that *Gilbert Islands* will be converted into a Major Communications Relay Ship (AGMR) in the Fiscal Year 1963 Program, and *Vella Gulf* in the F.Y. 1964 program. The first ship was approved for conversion in the F.Y. 1962 Program, but was delayed until F.Y. 1963 to make available funds for the first Command Ship (CC., ex-CVL) conversion in the F.Y. 1962 Program. The AGMR type will be capable of supplying vital communications services in any sea area in the world.

Reclassification Notes

Seven Escort Aircraft Carriers (CVE) of this class were reclassified as Escort Helicopter Aircraft Carriers (CVHE) on 12 June 1955. *Block Island* was reclassified as LPH on 22 Dec. 1957. Her conversion to Helicopter Amphibious Assault Ship under the Fiscal Year 1957 Shipbuilding and Conversion Program was being undertaken at Philadelphia Navy Shipyard and her officially estimated completion date was 30 July 1960, but in 1958 her conversion was cancelled as a measure of economy and she was reclassified as an AKV on 7 May 1959 when all the remaining 18 ships of the class were also reclassified as AKVs.

Photograph Notes

Another photograph of *Siboney*, a starboard quarter surface view, appears in the 1956-57 to 1960-61 editions.

Gunnery Notes

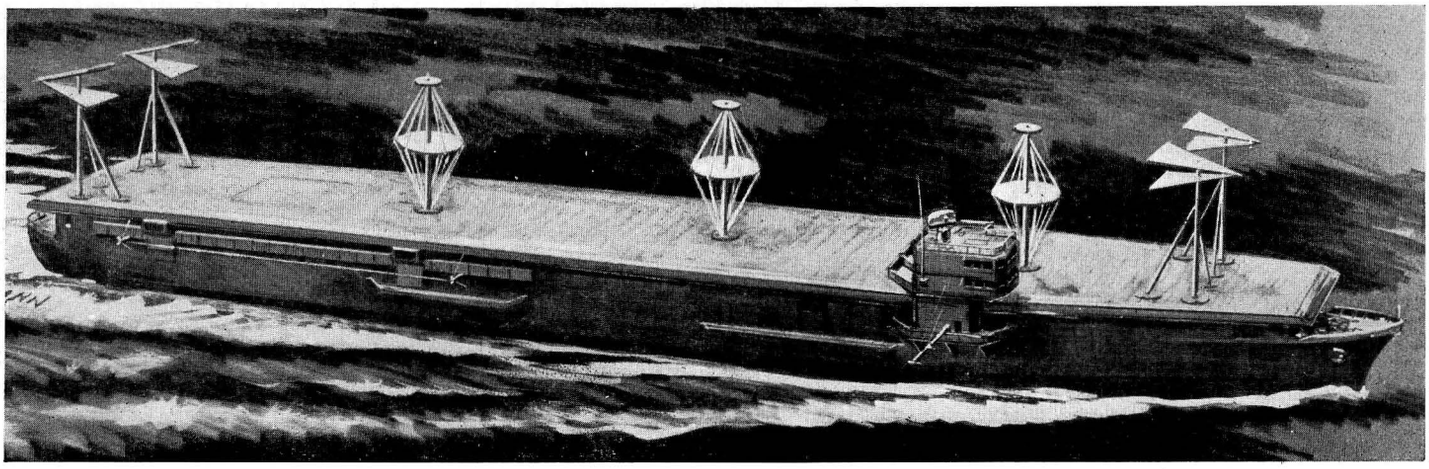
After starboard 5 inch gun was removed from former active units. No. 1 Bofors 40 mm. mounting removed. 12 Oerlikon 20 mm. twin mounts now instead of former total of 30. Four rocket launchers now located amidships, two on each side.

Recent Disposals

Block Island, AKV 38 (ex-LPH 1, ex-CVE 106) was stricken on 1 July 1959, *Mindoro*, AKV 20 (ex-CVE 120) on 1 Dec. 1959, and *Bairoko*, AKV 15 (ex-CVE 115), *Palau*, AKV 22 (ex-CVE 122), *Paget Sound*, AKV 13 (ex-CVHE 113) and *Vella Gulf*, AKV 11 (ex-CVHE 111) in 1960, *Sicily*, AKV 18 (ex-CVE 118) in 1961. *Gilbert Islands*, *AKV* 39 (ex-*CVE* 107) and *Salerno Bay* AKV 10 (x-CVE 110) were stricken on 1 June, 1961. *Vella Gulf* and *Gilbert Islands*, however, were reinstated on the Navy List on 1 Nov. 1961.

No.	*Name*	*Laid down*	*Launched*	*Completed*
AKV 37 (ex-CVHE 105)	*Commencement Bay*	23 Sep. 1943	9 May 1944	27 Nov. 1944
AKV 39 (ex-CVE 107)	*Gilbert Islands*	29 Nov. 1943	20 July 1944	5 Feb. 1945
AKV 8 (ex-CVE 108)	*Kula Gulf*	16 Dec. 1943	15 Aug. 1944	12 May 1945
AKV 9 (ex-CVHE 109)	*Cape Gloucester*	10 Jan. 1944	12 Sep. 1944	5 Mar. 1945
AKV 11 (ex-CVHE 111)	*Vella Gulf*	7 Mar. 1944	19 Oct. 1944	9 Apr. 1945
AKV 12 (ex-CVE 112)	*Siboney*	1 Apr. 1944	9 Nov. 1944	14 May 1945
AKV 14 (ex-CVE 114)	*Rendova*	15 June 1944	28 Dec. 1944	22 Oct. 1945
AKV 16 (ex-CVE 116)	*Badoeng Strait*	18 Aug. 1944	15 Feb. 1945	14 Nov. 1945
AKV 17 (ex-CVHE 117)	*Saidor*	29 Sep. 1944	17 Mar. 1945	4 Sep. 1945
AKV 19 (ex-CVE 119)	*Point Cruz*	4 Dec. 1944	18 May 1945	16 Oct. 1946
AKV 21 (ex-CVHE 121)	*Rabaul*	29 Jan. 1945	14 July 1945	30 Aug. 1946
AKV 23 (ex-CVHE 123	*Tinian*	20 Mar. 1945	5 Sep. 1945	30 July 1946

CVHE = Helicopter Escort Aircraft Carrier
CVE = Escort Aircraft Carrier
AKV = Cargo Ship and Aircraft Ferry



MAJOR COMMUNICATIONS RELAY SHIP (FORMER ESCORT AIRCRAFT CARRIER Projected under the 1963 Conversion Program.

1962, *United States Navy*, *Official*



CROATAN

Added **1960**, *United States Navy, Official*

Rated as **Aircraft Ferrys** (AKV)

Former Escort Aircraft Carriers (CVE)

4 "Bogue" Class

BRETON CARD CORE CROATAN

Displacement:	9,800 tons *standard* (15,700 tons *full load*)
Dimensions:	Length: 465 (*pp.*), 496 (*o.a.*) feet. Flight deck: 450 feet. Beam: 69½ feet (*hull*). Width: 112 feet (*extreme*). Draught: 26 (*max.*) feet.
Guns:	Removed. See *Gunnery Notes*
Aircraft:	See *General Notes*
Machinery:	Westinghouse geared turbines. S.H.P.: 8,500=18 kts.
Boilers:	2 Foster-Wheeler type
Complement:	75

General Notes

All converted from mercantile hulls built by Seattle-Tacoma S.B. Corpn., and vary slightly in appearance. When operational as escort aircraft carriers they carried 30 aircraft and had a complement of 800 officers and men. Named after sounds. Equipped with derricks for retrieving seaplanes and loading and unloading aircraft at the pierside. Reclassified from Escort Aircraft Carriers (CVE) to Escort Helicopter Aircraft Carriers (CVHE) on 12 June 1955, to CVU on allocation as MSTS aircraft ferrys on 1 July 1958, and to AKV on 7 May 1959. *Breton* developed a crack in her hull while ferrying aircraft to San Franscisco from the Far East. She may be discarded.

Sister ships *Altamaka*, CVHE 18, *Barnes*, CVHE 20, *Bogue*, CVHE 9, *Copahee*, CVHE 12, and *Nassau*, CVHE 16, also *Prince William*, CVHE 31, *Chenango*, CVHE 28, *Santee*, CVHE 29 and *Suwanee*, CVHE 27 were stricken from the list on 1 Mar. 1959.

Gunnery Notes

Unarmed while designated USNS with civil service crews. Formerly mounted one or two 5-inch guns, 16—40 mm. AA. guns, and 20—20 mm. AA. guns.

No.	*Name*	*Laid down*	*Launched*	*Completed*
AKV 40 (ex-CVU 11, ex-CVHE 11)	*Card*	27 Oct. 1941	21 Feb. 1942	8 Nov. 1942
AKV 41 (ex-CVU 13, ex-CVHE 13)	*Core*	2 Jan. 1942	15 May 1942	10 Dec. 1942
AKV 42 (ex-CVU 23, ex-CVHE 23)	*Breton*	25 Feb. 1942	27 June 1942	12 Apr. 1943
AKV 43 (ex-CVU 25, ex-CVHE 25)	*Croaton*	15 Apr. 1942	3 Aug. 1942	28 Apr. 1943

AMPHIBIOUS ASSAULT SHIPS (LPH)



IWO JIMA

1962, *United States Navy, Official*

4 + 1 New Construction

GUADALCANAL IWO JIMA LPH 9 OKINAWA

Displacement:	10,700 tons *light*, 17,000, tons *standard* (18,340 tons *full load*)
Dimensions:	Length: 592 feet, 600 feet (*o.a.*). Beam: 105 feet (*max.*), 84 feet (*hull*). Draught: 25 (*max.*) feet
Guns:	8—3 inch, 50 cal. in twin mounts
Aircraft:	20 to 45 helicopters (20 HR2S, 30 HUS)
Machinery:	Geared turbines. 1 shaft. S.H.P.: 22,000=20 kts.
Boilers:	4
Complement:	528 crew (48 officers, 480 men) plus accommodation for 2,090 troops (190 officers, 1,900 troops)

General Notes

To support and fully exploit the Marine Corps vertical envelopment concept for the conduct of modern amphibious operations in the U.S. Navy. Helicopter amphibious assault ships. Each carrier transports a helicopter assault force consisting of approximately 2,000 personnel, essential combat supplies and equipment and twenty assault transport helicopters. They have a sustained speed of 20 knots, the most modern command facilities, the latest type of cargo and material handling equipment, and adequate space for embarked troops and vehicles. The flight and hangar decks provide efficient helicopter operations and maintenance. Two deck-edge elevators. *Iwo Jima* was the first amphibious assault ship to be built from the keel up for helicopter use and is officially estimated to have cost $40,000,000. Another LPH is requested in the Fiscal Year 1963 Program.

Iwo Jima, LPH 2, was built under the Fiscal Year 1958 Program, *Okinawa*, LPH 3, is being built under the Fiscal year 1959 program, LPH 7 under the Fiscal Year 1960 program and LPH 9 under the Fiscal Year 1962 program.

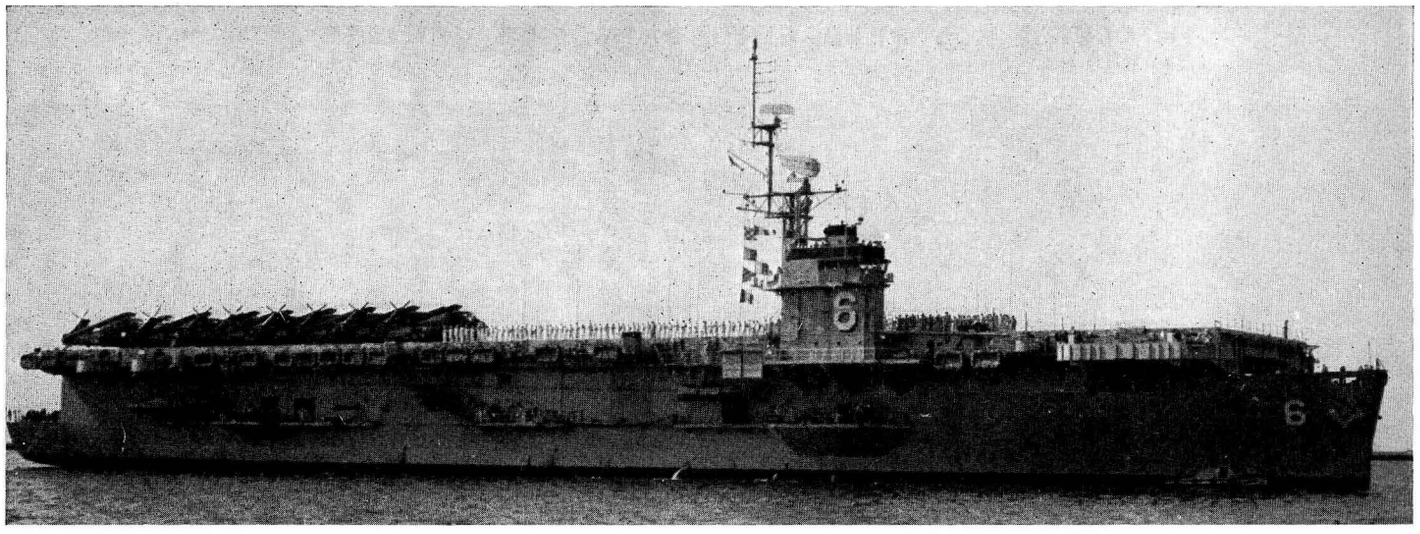


IWO JIMA

1962, *United States Navy, Official*

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
LPH 2	*Iwo Jima*	Puget Sound Naval Shipyard	13 Feb. 1959	17 Sep. 1960	30 Oct. 1961
LPH 3	*Okinawa*	Philadelphia Naval Shipyard	1 Apr. 1960	19 Aug. 1961	13 Apr. 1962
LPH 7	*Guadalcanal*	Philadelphia Naval Shipyard	1 Sep. 1961	1 Aug. 1962	25 Jan. 1963*
LPH 9		Philadelphia Naval Shipyard	May 1962*	1963*	Nov. 1964*

* Officially estimated dates



THETIS BAY (showing new LPH number) 1959, *Hajime Fukaya*

Amphibious Assault Ship (LPH)
Former Escort Aircraft Carrier (Ex-CVHA, Ex-CVE)
1 Modified "Anzio" Class

THETIS BAY

No.:	LPH 6 (ex-CVHA 1, ex-CVE 90)
Builders:	Henry J. Kaiser Co., Inc., Vancouver, Wash.
Laid down:	22 Dec. 1943
Launched:	16 Mar. 1944
Completed:	21 Apr. 1944
Converted:	San Francisco Naval Shipyard (Begun 20 June 1955, Completed 20 July 1956)
Displacement:	8,000 tons *standard* (11,000 tons *full load*)
Dimensions:	Length: 487 (*pp.*), 498 (*w.l.*), 501 (*o.a.*) feet. Beam: 65 feet (*hull*). Width: 108 feet (extreme). Draught: 20 (*max*) feet.
Guns:	16—40 mm. Bofors AA. in eight twin mountings.
Aircraft:	15 to 20 helicopters
Machinery:	Skinner Unaflow (reciprocating) engines. 2 shafts. I.H.P.: 11,200 = 19·5 kts.
Boilers:	2
Oil fuel:	3,000 tons
Radius:	11,900 miles at 15 kts.
Complement:	930 (complement of 40 officers and 500 men plus 390 troops); also has capacity of over 1,000 marines and accommodation for 1,600 troops.

General Notes

Sole survivor of a class of 50 war emergency ships of the "Anzio" class, designed from the start as aircraft carriers, all built by the Henry J. Kaiser Co., Inc., at Vancouver, Wash., or by the Oregon S. B. Corpn. at Portland, Oregon. They were of an improved design, differing from the converted ships of the "Bogue" class, which were found difficult to land upon in light airs. Colloquially known as "Jeeps". All originally had "Bay" names, but 25 were renamed after battles.

Conversion Notes

The Fiscal Year 1955 program authorised the conversion of one CVE to an Assault Helicopter Transport for use by the Marine Corps in amphibious landings. Accordingly CVE 90 *Thetis Bay*, entered San Francisco Naval Shipyard in June 1955 for conversion and was commissioned on 20 July 1956. Redesignated CVHA 1 on 25 Feb. 1955. She will not only provide coverage for helicopters but will also take care of the assault troops. She carries at least 15 helicopters. Conversion included elimination of catapults and arrester gear, enlarging and resiting of elevators and accommodation for marine troops. The conversion of another CVE to CVHA, requested in the Fiscal 1957 appropriations, was subseuqently cancelled.

Original Design Notes

Thetis Bay, like all the other units of her class, originally had a displacement of 7,800 tons standard and 10,400 tons full load with an overall length of 512 feet and a draught of 19¾ feet. She was armed with one 5 inch gun (38 calibre) and 24—20 mm. Oerlikon anti-aircraft guns, carried 30 aircraft, and had a complement of 643 in peacetime and 860 officers and men in wartime.

Reclassification Notes

Of the 50 former Escort Aircraft Carriers (CVE) of the "Anzio" Class, five were lost during the Second World War (see *Class Notes*) and eleven were sold or scrapped after the war. Of the remaining 34, ten were reclassified as Escort Helicopter Aircraft Carriers (CVHE) and 23 were reclassified as Utility Aircraft Carriers (CVU) on 12 June 1955. The remaining vessel had been reclassified as an Assault Helicopter Aircraft Carrier previously (see *Conversion Notes*). Thirteen surviving ships of the class were reclassified as AKV on 7 May 1959. The *Thetis Bay* was reclassiffied as LPH 6 on 28 May 1959. The remaining 20 ships were stricken from the list, see *Recent Disposals*.

Photograph Notes

Large starboard broadside view of *Thetis Bay* after conversion, starboard bow aerial view, and port bow overhead aerial view, in the 1957-58 edition.

Large starboard broadside surface view of *Corregidor* in the 1957-58 to 1959-60 editions, and starboard quarter oblique aerial view of *Corregidor* in the 1956-57 to 1959-60 editions. Port quarter aerial view of *Tripoli* in the 1953-54 to 1961-62 editions.

Engineering Notes

The main engine rooms and boiler rooms are staggered.

Class Notes

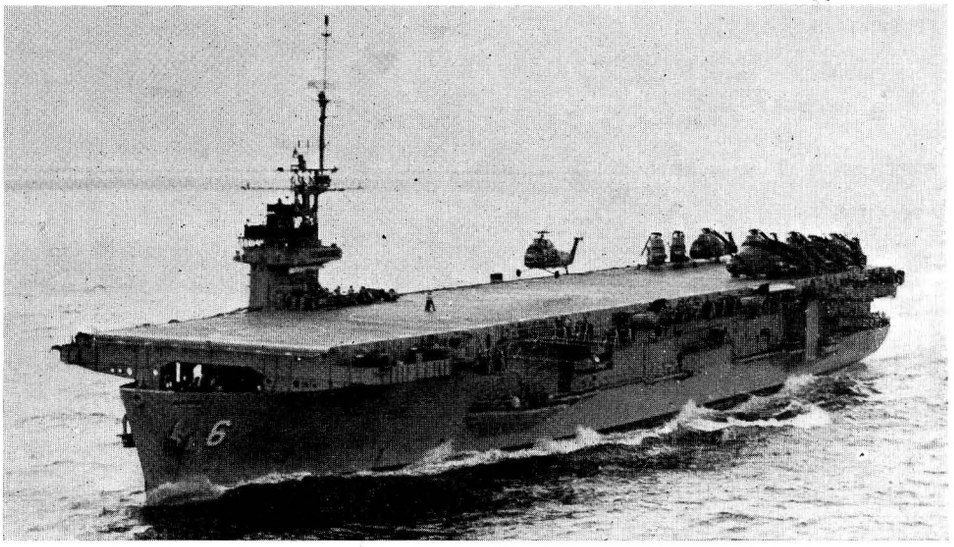
Second World War losses: *Bismarck Sea* (CVE 95), *Gambier Bay* (73), *Liscombe Bay* (56), *Ommaney Bay* (79), *St. Lo* (63). Sold or scrapped after the war: *Admiralty Islands*, *Attu*, *Casablanca*, *Kalinin Bay*, *Kitkun Bay*, *Makin Island*, *Roi*, *Salamaua*, *Solomons*, *Tulagi*, *Wake Island*.

Recent Disposals

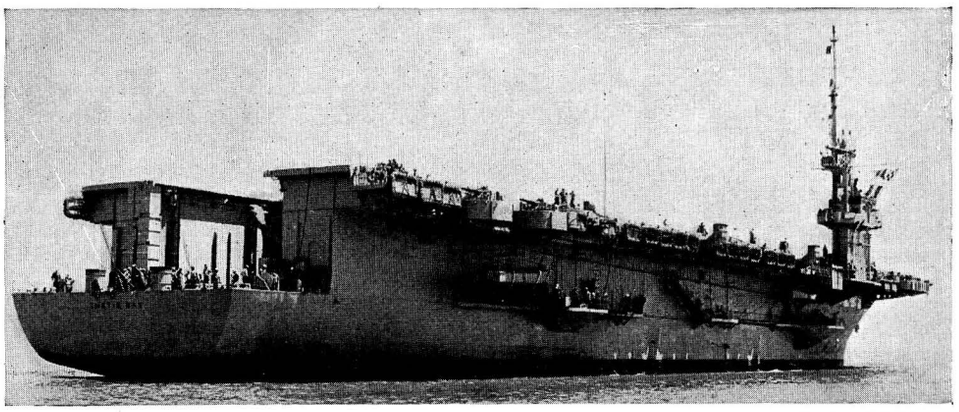
Seventeen sister ships of this class were scrapped or stricken from the Navy List in 1959, namely: *Anzio*, *Corregidor*, *Fanshaw Bay*, *Guadacanal*, *Kasaan Bay*, *Makassar Strait*, *Manila Bay*, *Mission Bay*, *Munda*, *Natoma Bay*, *Petrof Bay*, *Saginaw Bay*, *Sargent Bay*, *Shamrock Bay*, *Shipley Bay*, *Steamer Bay* and *White Plains*. (*Makassar Strait* was to have been sunk as a target off Pt. Mugu in Feb. 1959, but this is postponed and the hulk is being used as a target.

Thirteen more were stricken:—*Hoggatt Bay*, AKV 25 (ex-CVHE 75) on 1 Sep. 1959, *Kadashan Bay*, AKV 26 (ex-CVU 76) on 1 Aug. 1959, *Lunga Point* AKV 32 (ex-CVU 94) in 1960, *Marcus Island*, AKV 27 (ex-CVHE 77) on 1 Sep. 1959 *Savo Island*, AKV 28 (ex-CVHE 78) on 1 Sep. 1959, *Nehenta Bay*, AKV 24 (ex-CVU 74) on 1 Aug. 1959, *Rudyerd Bay*, AKV 29 (ex-CVU 81) on 1 Aug. 1959, and *Takanis Bay*, AKV 31 (ex-CVU 89) on 1 Aug. 1959. *Sitkoh Bay*, AKV 30 (ex-CVU 86), *Hollandia*, AKV 33 (ex-CVU 97), *Kwajalein*, AKV 34 (ex-CVU 98), *Bouganville*, AKV 35 (ex-CVU 100), and *Matanikau*, AKV 36 (ex-CVHE 101) were stricken at the end of 1960.

Three remaining vessels rated as Utility Carriers, *Cape Esperence* (T-CVU 88), *Tripoli* (T-CVU 64) and *Windham Bay* T-CVU 92) were stricken and scrapped in 1961.



THETIS BAY 1962, *United States Navy, Official*



THETIS BAY (starboard quarter showing open lift aft) 1957, *U.S. Navy, Official*

Recent Disposals of Battleships

The battleships *Iowa*, BB 61, *Missouri*, BB 63, *New Jersey*, BB 62, and *Wisconsin*, BB 64, of the "Iowa" class, all decommissioned in 1955-58 and laid up ever since, are expected to be stricken from the List of Naval Vessels in the near future. (See full particulars, photographs and drawings in the 1961-62 edition).

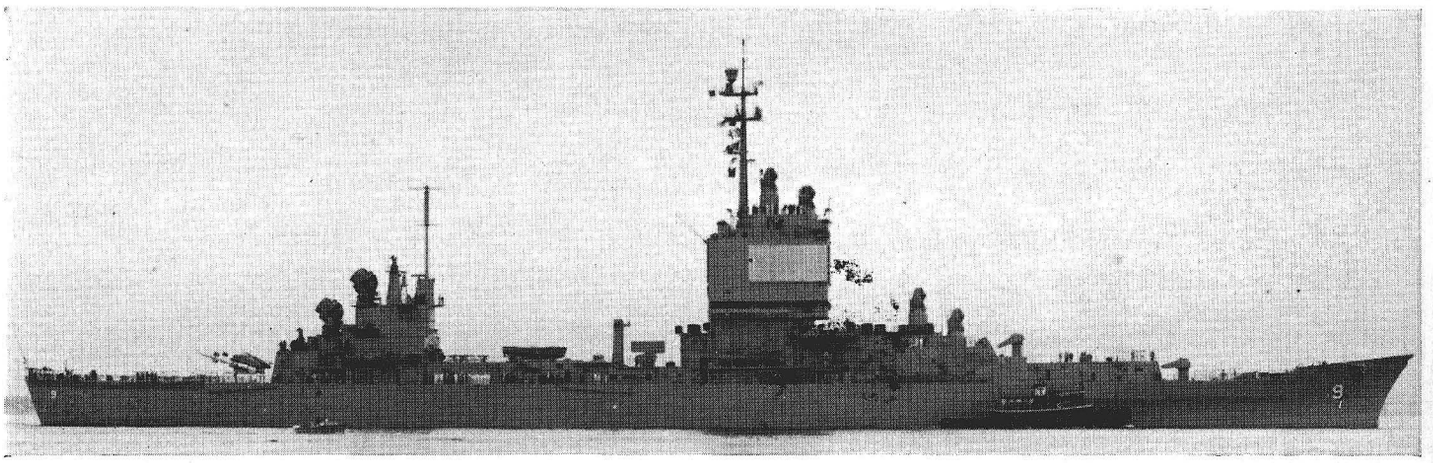
The bartleships *Alabama*, BB 60, *Indiana*, BB 58, *Massachusetts*, BB 59, of the "Indiana" Class, and *South Dakota*, BB 57, were all stricken from the List of Naval Vessels on 1 June 1962.

The battleships *North Carolina*, BB 55, and *Washington*, BB 56, of the "North Carolina" class were stricken from the List of Naval Vessels at the end of 1960.

The battle cruisers *Alaska*, CB 1, and *Guam*, CB 2, of the "Alaska" Class, officially rated as "Large Cruisers," were also stricken in 1960. (Their uncompleted sister ship *Hawaii*, CB 3, was stricken on 9 June, 1958).

The battleships, *California*, BB 44, and *Tennessee*, BB 43, of the "Tennessee" class; the *Colorado*, BB 45, and *Maryland*, BB 46, of the "Colorado" class; and the *West Virginia*, BB 48, were scrapped in 1959 (stricken from the Navy List on 1 Mar. 1959).

NUCLEAR POWERED GUIDED MISSILE CRUISER (CGN)

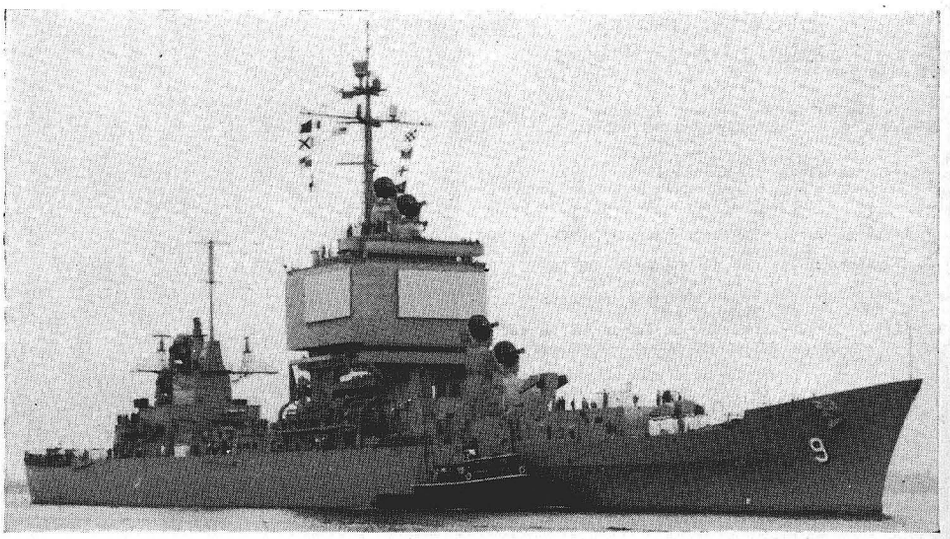


LONG BEACH

Added 1962, Gabor Laszlo

LONG BEACH

No.:	CG (N) 9 (ex-CG (N) 160)
Builders:	Fore River Shipyard of Bethlehem Steel Company, Quincy, Mass.
Engineers:	Westinghouse Electric Corporation & General Electric Company, West Lynn, Mass.
Laid down:	2 Dec. 1957
Launched:	14 July 1959
Completion:	1 Sep. 1961
Displacement:	14,200 tons *standard* (15,947 tons *full load*) offically revised figures.
Dimensions:	Length: 721½ feet. Beam: 73¼ feet. Draught: 27¾ (*max.*)
Guns:	2—5 inch in single mountings (see *Gunnery Notes*)
Guided Missiles:	"Regulus" (may eventually be fitted with "Polaris" fleet ballistic missiles instead) 1 twin "Talos" launcher aft (both long range and short range) 2 twin Advanced "Terrier" launchers forward (see *Guided Missile Notes*)
A/S weapons:	ASROC launcher amidships
Machinery:	2 pressurised water cooled C1 W nuclear reactors by Westinghouse Electric Corporation. Steam turbines. 2 shafts. Main turbines and gears by General Electric Company S.H.P.: 80,000. Trials speed: 30.5 kts.
Radius:	Cruising range: 360,000 miles at 20 kts.
Complement:	1,020 (60 officers, 960 men)



LONG BEACH

Added 1962, Gabor Laszlo

General Notes

Originally classified as a guided missile light cruiser (CLGN). Provided under the Fiscal 1957 Naval Appropriations. Designed by the U.S. Navy Bureau of Ships. No armour. To have cost $250,000,000, including $18,335,305 for the nuclear reactor; but her final cost was $320,547,000. Name *Brooklyn* was considered for this ship. She was officially commissioned on 9 Sep. 1961 and joined the Fleet in late 1961.

Design Notes

This is the first ship to be designed and constructed from the keel up as a cruiser for the United States since the end of the Second World War, the first surface ship to be armed with a main battery of guided missiles and powered by a nuclear engineering plant, and the first nuclear powered surface fighting ship in the world.

She is designed to operate offensively and independently of other forces under conditions of nuclear warfare and is capable of operating against aircraft, guided missiles, surface or sub-surface opposition singly or in support of other forces in both nuclear and non-nuclear warfare. In addition to equipment and weapons for detecting and destroying enemy submarines she will carry most of the United States Navy's modern guided missiles. These will include the "Regulus," the "Talos" and the "Terrier," offensive to enemy attack launched from air, sea, land or water, whether by missile or conventional assault.

Guided Missile Notes

The complex handling and launching system for "Talos" weighs more than 350 tons. The system is intended to store load, train, elevate, and launch the guided missiles, which weigh 3,000 pounds and are 31 feet long, including booster, and 30 inches in diameter.

The launching equipment automatically selects whichever type of missile the fire control officer chooses and delivers it to the launching station. The control system is so complex that the equipment must not only remember which missile is in which rack but must also remember any changes made in the racks themselves.

The ready-service missile magazine, which operates in conjunction with this equipment to make a complete handling and launching system, was designed and manufactured by the Puget Sound Naval Shipyard, Bremerton, Washington.

The ramjet-propelled "Talos" is capable of engaging both supersonic and subsonic targets and will be effective against enemy planes employing air-to-surface missiles and the missiles themselves. It can deliver a high-explosive or atomic warhead, as circumstances dictate, and can be used against enemy ships and shore bombardment targets, as well as for air defence.

The design of the *Long Beach* includes provision for an 8 missile "Polaris" launching system which may be installed at a later date.

Gunnery Notes

In 1961 the ship was fitted with two single 5-inch guns or use against surface targets and slow moving aircraft.

Electronic Notes

The most modern improvements in electronic detection devices are installed. Fitted with NTDS (Naval Tactical Data System) at Philadelphia in 1962. Equipped with sonar.

Engineering Notes

Westinghouse Electric Corporation constructed the reactor compartment components. General Electric Company constructed the main propulsion engines and gears. Capable of steaming continuously at full power for over 100,000 miles.

Electrical Notes

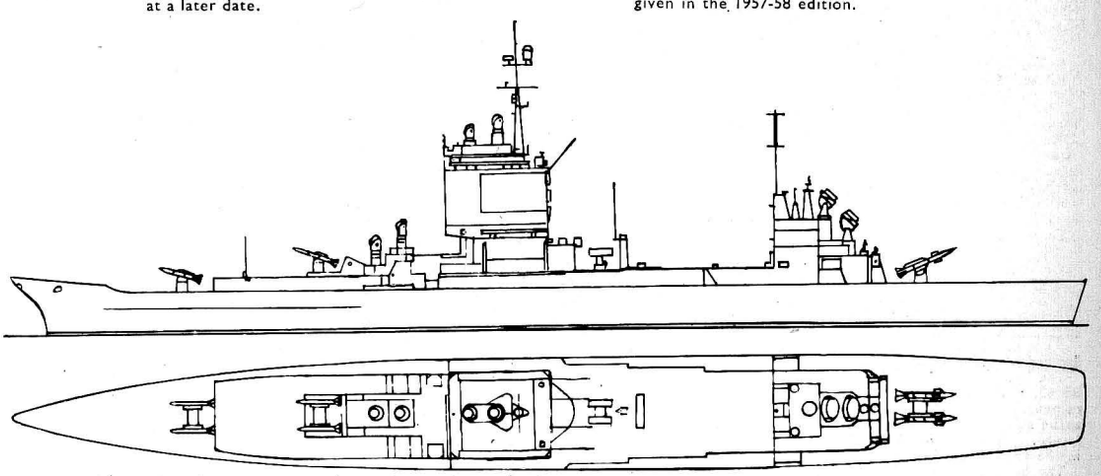
Westinghouse Electric Corporation built the six turbine generator sets for the ship, each of which will have a rating of 2,500 kilowatts.

Building Notes

Dates and full details of the contracts for construction development, and design studies awarded to the builders and engineers, missile manufacturers and ordnance firms, are given in the 1957-58 edition.

Photograph Notes

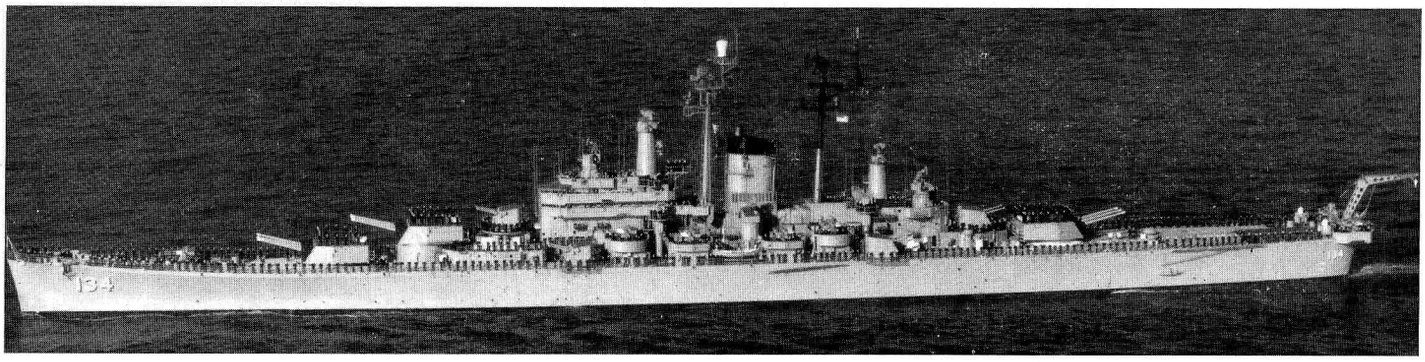
A starboard broadside aerial view (Frontispiece), a large oblique aerial view, and a port quarter oblique aerial view, appear in the 1961-62 edition.



Drawing Notes

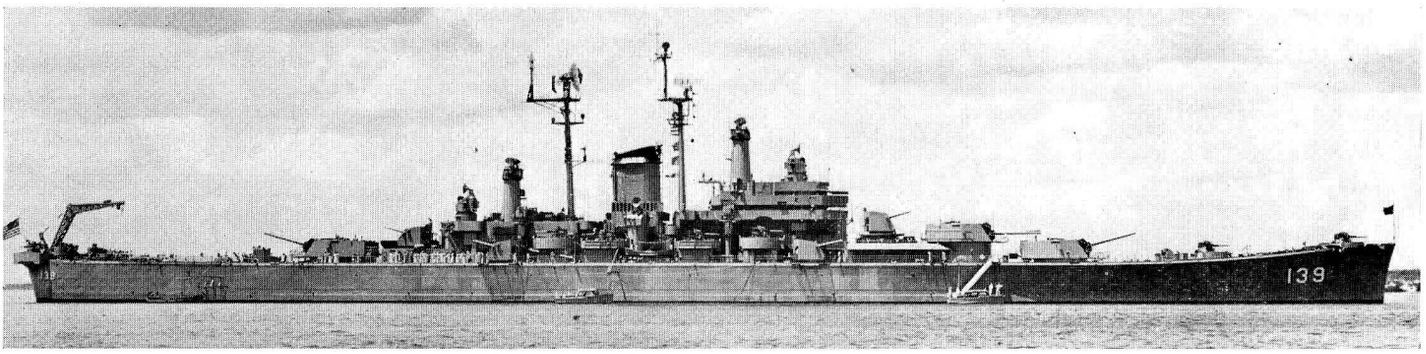
Port elevation and plan. Scale: 128 feet= 1 inch.

HEAVY CRUISERS (CA)



DES MOINES

1962, *United States Navy, Official*



SALEM

Added 1961, *United States Navy, Official*

3 "Salem" Class

DES MOINES	NEWPORT NEWS	SALEM
Displacement:	17,000 tons *standard* (21,500 tons *full load*)	
Dimensions:	Length: 717 (*o.a.*) feet. Beam: 75½ feet. Draught: 26 (*max.*) feet	
Guns:	9—8 inch, 55 cal., triple turrets, 12—5 inch, 38 cal., d.p. twin mounts, 16—3 inch AA., 50 cal., twin mounts (see *Gunnery Notes*)	
Aircraft:	1 helicopter	
Armour:	8"-6" side, 3" × 2" decks	
Machinery:	Geared turbines. 4 shafts. S.H.P.: 120,000 = 33 kts.	
Boilers:	4 Babcock & Wilcox	
Oil fuel:	2,600 tons	
Radius:	8,000 miles at 15 kts.	
Complement:	1,860 (war), 1,500 (peace)	

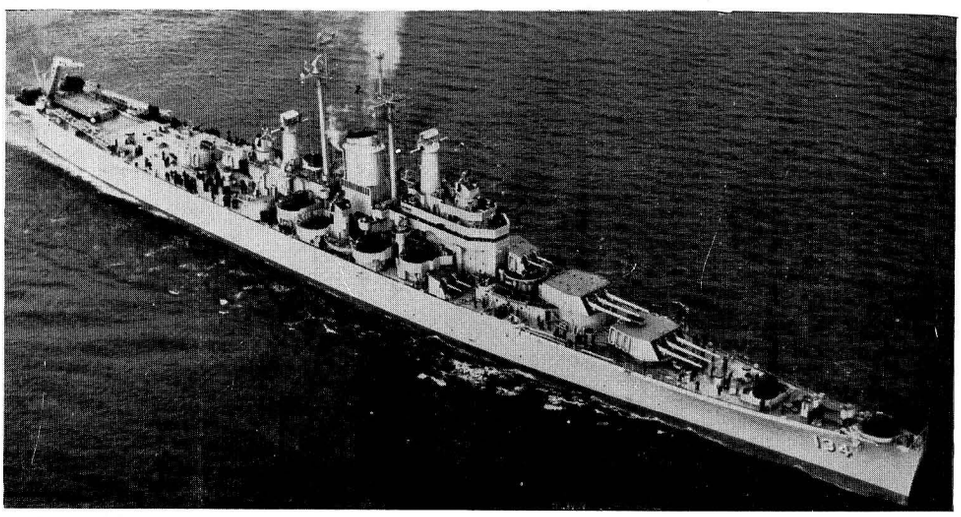
General Notes

The heaviest cruisers in the world, and the first vessels to mount completely automatic rapid-fire 8-inch guns, these ships represent an expansion of *Oregon City* design. Much of extra tonnage is absorbed by rapid loading gear and extra magazine space, though part of this is made up by saving in complement. *Newport News* and *Salem* are the first completely air-conditioned cruisers. The *Des Moines* is not air-conditioned. All assigned to Atlantic Fleet. The *Salem*, which decommissioned between Oct. 1958 and Feb. 1959 was the permanent flagship of the U.S. Sixth Fleet, her Mediterranean home port being at Villefranche, France, until she was relived there as such in Feb. 1958 by the *Des Moines*, which was in turn relieved as flagship in late 1960 by the *Springfield*, a guided missile cruiser (see later page), and decommissioned in Mar. 1961.

Newport News underwent a limited conversion at Norfolk Naval Shipyard in 1961-62 at a cost of $2,000,000 to fit her for her role as flagship of the U.S. Second Fleet in the Atlantic.

Gunnery Notes

All guns are of fully automatic type. Cartridge cases have replaced wrapped charges and shells have automatic fuse setting. 8-inch guns are said to be capable of firing four times more rapidly than any previous model. There is provision for 24—3 inch AA. guns in 12 twin mountings; but the twin mountings abreast the funnel are not installed in peacetime, and the twin mountings on the forecastle have been removed from *Newport News*.



NEWPORT NEWS

Added 1961 *United States Navy Official*

Photograph Notes

Starboard bow view of *Salem* in the 1957-58 edition, broadside section view of *Salem* showing midship details in the 1959-60 and 1960-61 editions, starboard broadside aerial view of *Newport News* in the 1957-58 to 1960-61 editions, and starboard bow oblique aerial view of *Des Moines* in the 1957-58 to 1961-62 editions. Photograph of *Newport News*, after refit as flagship, in Addenda.

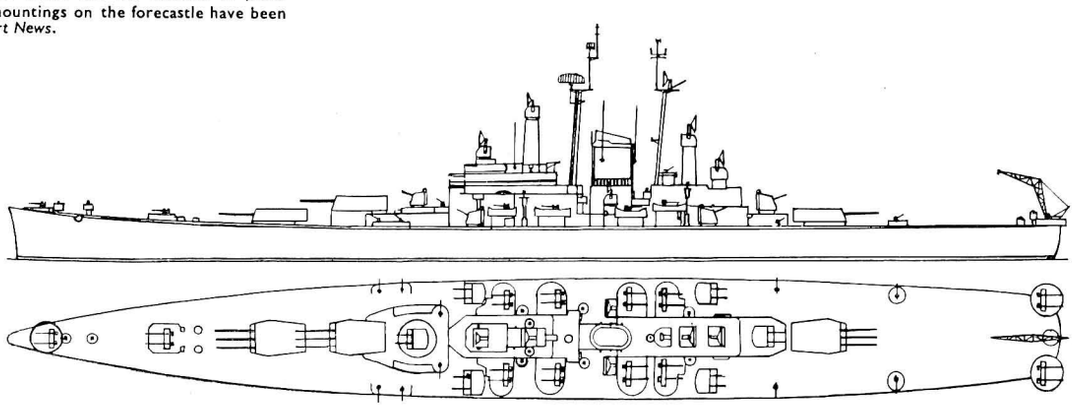
Appearance Notes

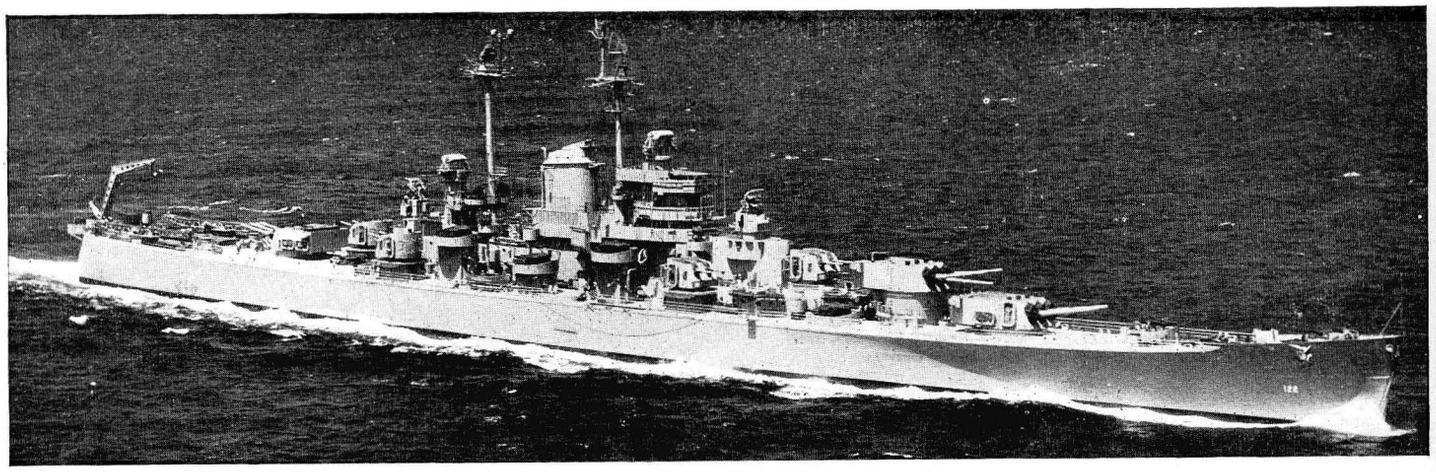
As completed have single funnels, thus resembling "Oregon City" class in appearance. After refit as flagship *Newport News* has antennae mast or forecastle.

Notes to Drawing

Port elevation and plan. Scale: 128 feet = 1 inch. The 20 mm. AA guns shown in the drawing have since been removed.

No.	*Name*	*Builders and Machinery*	*Laid down*	*Launched*	*Completed*
CA 134	*Des Moines*	Bethlehem Steel Co., Quincy	28 May 1945	27 Sep. 1946	17 Nov. 1948
CA 139	*Salem*	Bethlehem Steel Co., Quincy	4 June 1945	25 Mar. 1947	9 May 1949
CA 148	*Newport News*	Newport News S.B. & D.D. Co.	1 Oct. 1945	6 Mar. 1947	29 Jan. 1949





OREGON CITY

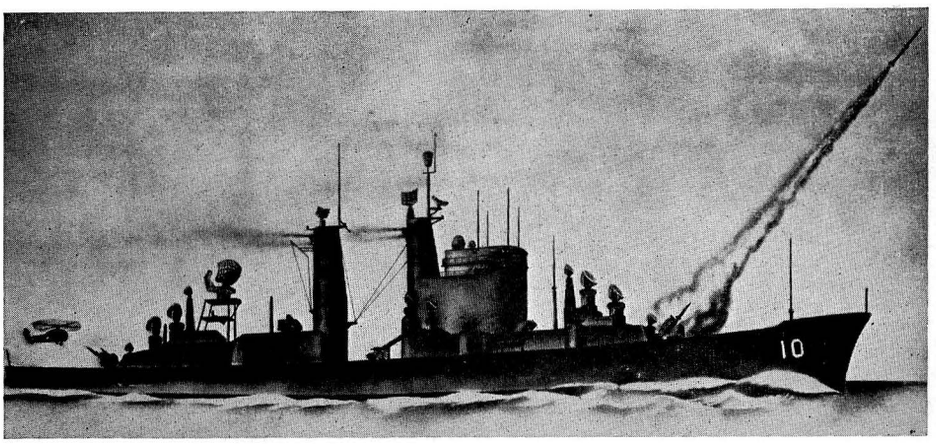
Added 1954, *U.S. Navy, Official*

Guided Missile Cruiser (CG) and Heavy Cruisers (CA)

3 "Oregon City" Class

ALBANY **OREGON CITY** **ROCHESTER**

Displacement:	*Albany* and *Oregon City:* 13,700 tons *standard*, *Rochester:* 13,000 tons *standard* (17,500 tons *full load*)
Dimensions:	Length: 673½ (*o.a.*) feet. Beam: 71 feet. Draught: 26 (*max.*) feet
Guns:	*Rochester:* 9—8 inch, 12—5 inch, 38 cal., 20—3 inch, 50 cal. AA. *Oregon City:* 9—8 inch, 55 cal., 12—5 inch, 38 cal., 52—40 mm. AA., 24—20 mm. AA.,
Guided Missiles:	*Albany:* Twin "Talos" launchers forward and aft; "Tartar" launchers amidships.
Aircraft:	1 helicopter
Armour:	6" side, 3" + 2" decks
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 120,000=33 kts.
Boilers:	4 Babcock & Wilcox
Oil Fuel:	2,500 tons
Radius:	9,000 miles at 15 kts.
Complement:	1,700 (war)



ALBANY (design drawing for conversion)

1959, *United States Navy Official*

General Notes

These ships are modified *Baltimores* with a single funnel and simplified superstructure. Bridge is farther aft than in *Baltimore* class. *Oregon City*, out of commission, in reserve, retains original armament. Active units rearmed with 3 inch guns in place of 40 mm. and 20 mm.

Rochester decommissioned in Apr. 1961.

Albany decommissioned in 1958 for conversion to a guided missile cruiser. See *Conversion Notes* below. Her classification and hull number was officially changed from CA 123 to CG 10 on 1 Nov. 1958. She recommissioned on 26 May 1962.

Engineering Notes

Cruising turbines are not included in engine design. In event of port or starboard fuel tanks being ruptured, change-over of suction to other side could be accomplished in a minute, oil burner lines being divided at boiler face.

Conversion Notes

The *Albany* was converted to a guided missile cruiser at Boston Naval Shipyard. The reconstruction consisted of installing guided missile capabilities both forward and aft. In previous conversions, such as those of the *Boston* and *Canberra*, see later page, conventional armament was retained forward while missile launchers were installed aft. Other work, such as the improvement of habitability, was done in this former heavy cruiser in conjunction with the installation of missile capabilities. She received both "Talos" and "Tartar" surface-to-air missile armament. Twin "Talos" launchers are mounted fore and aft, and "Tartar" launchers are installed amidships. "Regulus" launchers can also be installed as required. She was stripped of her original armament, and combined mast-stacks, or "macks," replaced her former masts and stacks. She was fitted with sonar, ASROC launcher, helicopters and helo hangar.

The design includes provision for an 8 missile "Polaris" launching system.

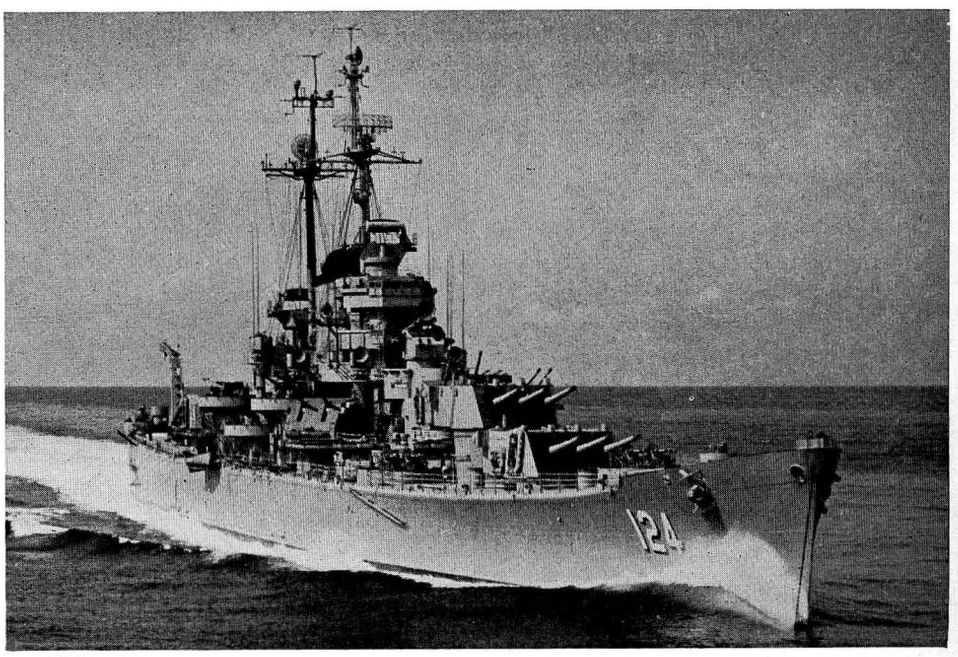
Conversion work started on 2 Jan. 1959 and it is officially estimated that the reconstructed ship will be completed in Nov. 1962.

Photograph Notes

A photograph of *Albany* before conversion appears in the 1952-53 to 1957-58 editions.

Notes to Drawing

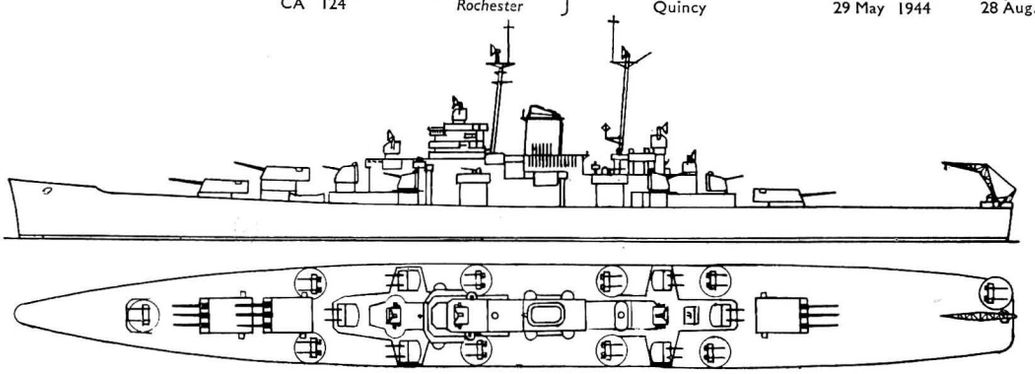
Port elevation and plan of *Oregon City* and *Rochester*. Scale: 128 feet=1 inch.

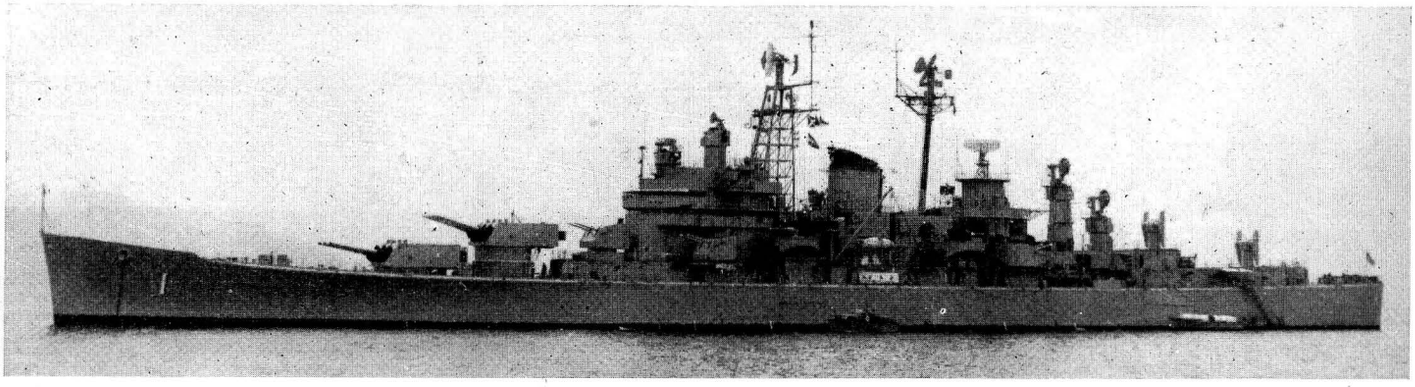


ROCHESTER

Added 1957, *U.S. Navy, Official*

No.	*Name*	*Builders and Machinery*	*Laid down*	*Launched*	*Completed*
CA 122	*Oregon City*	Bethlehem Steel Co.,	8 Apr. 1944	9 Apr. 1945	16 Feb. 1946
CG 10 (ex-CA 123)	*Albany*	Bethlehem Steel Co.,	6 Mar. 1944	30 June 1945	15 June 1946
CA 124	*Rochester*	Quincy	29 May 1944	28 Aug. 1945	20 Dec. 1946





BOSTON

Added 1962, courtesy Dr. Ian Pearsall

Guided Missile Cruisers (CAG)

2 Converted " Baltimore " Class

	BOSTON	**CANBERRA** (ex-*Pittsburgh*)
Name:	*Boston*	*Canberra*
No.:	CAG 1 (ex-CA 69)	CAG 2 (ex-CA 70)
Builders:	Bethlehem-Steel Co., Quincy	Bethlehem-Steel Co., Quincy
Laid down:	30 June 1941	3 Sep. 1941
Launched:	26 May 1942	19 Apr. 1943
Completed:	30 June 1943	14 Oct. 1943
Converted:	1 Nov. 1955	15 June 1956

Displacement:	13,600 tons *standard* (17,200 tons full load)
Dimensions:	Length: 673½ (*o.a.*) feet. Beam: 71 feet. Draught: 26 (*max.*) feet
Guns:	6—8 inch 55 cal.; 10—5 inch 38 cal.; 12—3 inch, 50 cal. AA.
G.M. Launchers:	2 twin mountings for " Terriers " (aft only)
Armour:	6 inch side belts, 3 inch decks
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 120,000=34 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	2,500 tons
Complement:	1,635 (*Boston* 110 officers, 1,620 men) capacity, 1,300 at present

General Notes

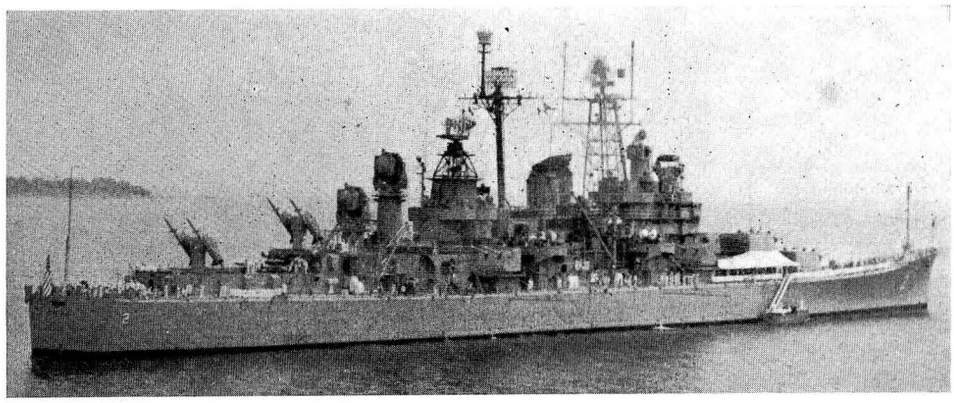
The world's first guided missile cruisers and first operational combat ships capable of firing supersonic anti-aircraft guided weapons. These ships with their associated radars and guidance systems for the " Terrier " and other anti-aircraft missiles represent a completely new naval weapons system specifically designed to further the U.S. Navy's policy of countering aircraft. Formerly classified as Heavy Cruisers (CA). *Boston* was originally built in exactly two years. *Canberra*, just before completion, was renamed in commemoration of H.M.A.S. *Canberra* which was sunk in the 1st Battle of Savo Island, 9 Aug., 1942.

Conversion Notes

Both ships were converted to Guided Missile Heavy Cruisers (CAG) by the New York Shipbuilding Corporation, Camden, New Jersey, at a cost of $30,000,000 for both. The after 143-ton 8 inch triple gun turret and the after 5 inch twin gun mounting were removed and two twin guided missile launchers mounted in " X " and " Y " positions in their place. Both ships have undergone other drastic changes to prepare them for their new role of defence against aircraft. The ships' superstructure was entirely remodelled to accommodate the new weapons. One of the two funnels was entirely removed which vastly alters the appearance of the vessels.

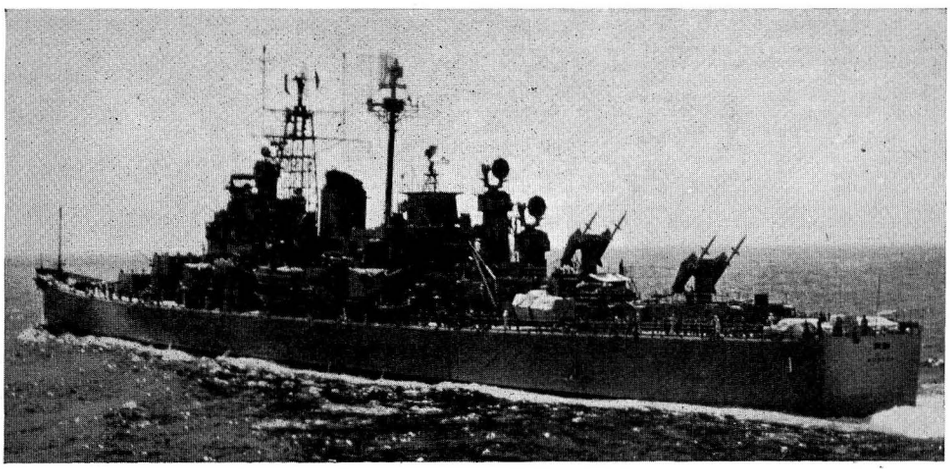
Guided Missile Notes

A slim needle-nosed supersonic anti-aircraft weapon, with a length of 27 feet and a speed of 1,500 m.p.h., the " Terrier," developed by the U.S. Navy's Bureau of Ordnance is designed to intercept aircraft under any weather conditions at a longer range and higher altitudes than conventional anti-aircraft guns. Stowage of the " Terrier " is below decks in two magazines, dubbed the " coke machines," which are completely automatic loading devices. Radar and electronic equipment for detecting targets and for guiding the missiles represent the most drastic change. This equipment is the most modern available and is designed for a maximum degree of automatic operation. Each of the two twin launchers is capable of firing two " Terriers " simultaneously. Can launch four missiles in eight-tenths of a second. Two missiles per launcher every 30 seconds. Automatic loading. 144 " Terrier " missiles carried in each ship. The " Terrier " was fired experimentally in fleet operations in Nov. 1954, from the U.S.S. *Mississippi*, the Navy's oldest battleship, which had been converted into a test ship for this purpose; she was scrapped in 1957.



CANBERRA

Added 1962, courtesy Godfrey H. Walker, Esq.



BOSTON

1960, courtesy Commander John C. Parry, U.S.N.R.

Converted Guided Missile Cruisers

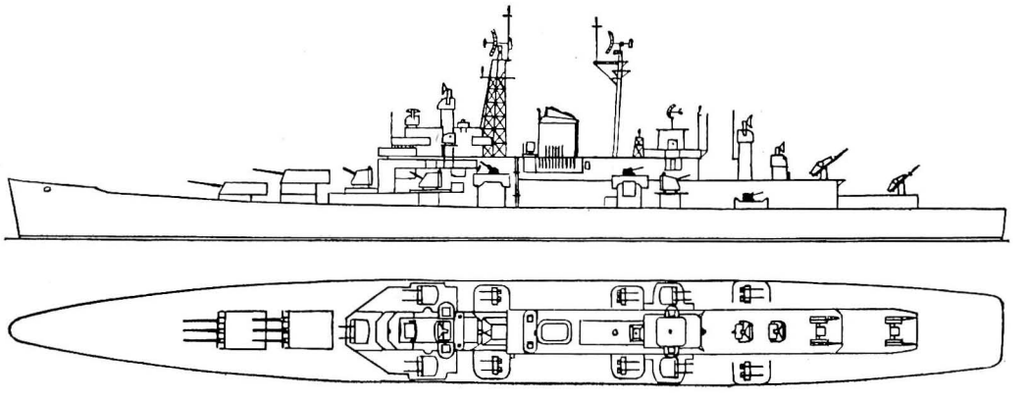
The heavy cruisers *Albany*, *Chicago* and *Colombus* are being converted into guided missile cruisers.

The heavy cruisers *Boston* and *Canberra* were converted into guided missile cruisers in 1955-56.

The light cruisers *Galveston*, *Little Rock*, *Oklahoma City*, *Providence*, *Springfield* and *Topeka* were converted into guided missile cruisers in 1958-60 (see later pages).

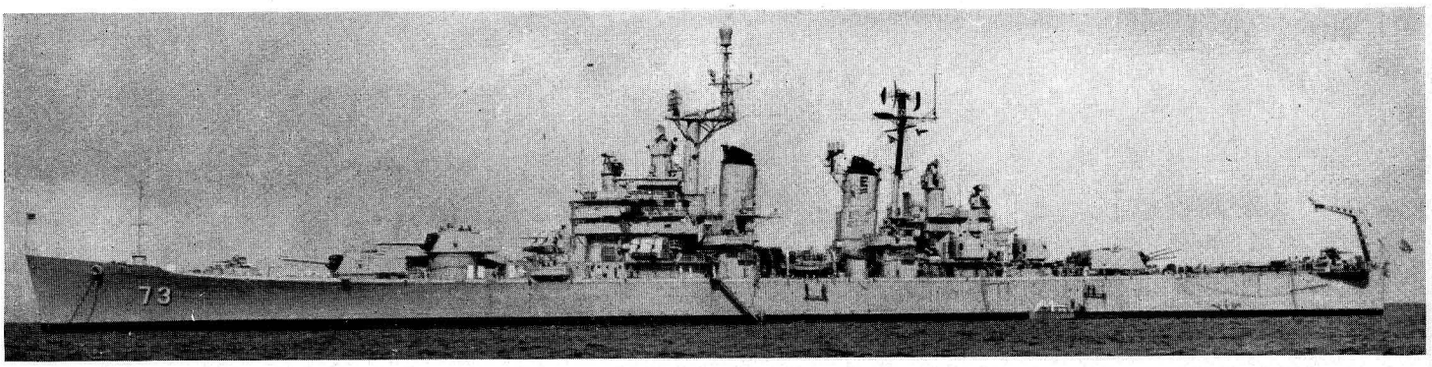
Photograph Notes

A port quarter oblique aerial view of *Boston* appears in the 1956-57 to 1958-59 editions, and a starboard quarter surface view in the 1959-60 edition, and a starboard bow oblique aerial view in the 1956-57 to 1961-62 editions. A port broadside surface view of *Canberra* appears in the 1958-59 to 1961-62 editions.



Notes to Drawing

Port elevation and plan.
Scale: 128 feet=1 inch.



ST. PAUL

Added 1961, United States Navy, Official

Guided Missile Cruisers (CG) and Heavy Cruisers (CA)
2 Rebuilt "Baltimore" Class and 10 "Baltimore" Class

BALTIMORE
BREMERTON
CHICAGO
COLUMBUS
FALL RIVER
HELENA (ex-*Des Moines*)
LOS ANGELES
MACON
PITTSBURGH (ex-*Albany*)
QUINCY (ex-*St. Paul*)
ST. PAUL (ex-*Rochester*)
TOLEDO

Displacement:	13,600 tons *standard* (17,200 tons *full load*)
Dimensions:	Length: 673½ (*o.a.*) feet. Beam: 71 feet. Draught: 26 (*max.*) feet
Guns:	9—8 inch, 55 cal., 12—5 inch, 38 cal., 52—40 mm. AA. (14—3 inch 50 cal. guns replace 40 mm. in active units
Aircraft:	All ships carry a helicopter
Armour:	6" side, 3" + 2" decks.
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 120,000=34 kts.
Boilers:	4 Babcock & Wilcox
Oil Fuel:	2,500 tons
Radius:	9,000 miles at 15 kts.
Complement:	1,700 (war), 1,400 (peace)

General Notes

Pittsburgh was built in 20 months. All others except *Toledo* were built in two years. Are much enlarged and improved editions of *Wichita*. Last 6 ships belong to War Programme. *Baltimore* and *Pittsburg* were decommissioned in 1956 and *Bremerton* and *Toledo* in 1960. Only one crane now at stern except *Baltimore* and *Quincy* which have two cranes on stern as shown in photograph of *Baltimore* in 1958-59 edition. Catapults discarded. Active units have twin 3 inch, 50 cal. guns on starboard quarter only, except those fitted as guided missile cruisers which have none on quarter. The classification and hull numbers of *Chicago* (CA 136 to CG 11) and *Fall River* (CA 131 to CG 12) were officially changed to become effective on 1 Nov. 1958, but the classification of *Fall River* as CG 12 was cancelled on 9 Oct. 1958. *St. Paul* was designated as the permanent flagship of the 7th Fleet in 1959, her home port being at Yokosuka, Japan. (She was replaced as 7th Fleet Flagship by *Oklahoma City*, see later page, on 28 Dec. 1961). *Helena* became permanent First Fleet Flagship at San Diego in Jan. 1961. Both now have a tower foremast, and improved radar, see photograph.

Gunnery Notes

8-inch guns are a new model, firing a heavier shell than those mounted in earlier cruisers. *Bremerton*, *Columbus*, *Helena*, *Los Angeles*, *Macon*, *St. Paul* and *Toledo* have undergone armament conversion (improved rapid-firing 3 inch 50 cal. AA. guns replacing 40 mm. AA. guns).

Guided Missile Notes

Boston and *Canberra* have been converted to guided missile ships (CAG), see earlier page. (Fitted with surface-to-air "Terrier" missile installations). *Los Angeles* was converted to carry "Regulus" guided missiles at Mare Island Naval Shipyard during 3 months of 1954 with little change in previous armament. *Helena*, *Macon* and *Toledo* also fitted for "Regulus" guided missiles. These four ships are not classified as guided missile cruisers, however.

Conversion Notes

Two ships of this class were converted to guided missile cruisers under the Fiscal 1959 program, *Chicago* at San Francisco Naval Shipyard and *Columbus* at Puget Sound Naval Shipyard. *Chicago* conversion began on 1 July 1959, *Columbus* on 1 June 1959. They were scheduled to recommission in Jan. 1963 and 7 July 1962, and it is officially estimated that they will be completed in Aug. 1963 and Oct. 1962, respectively.

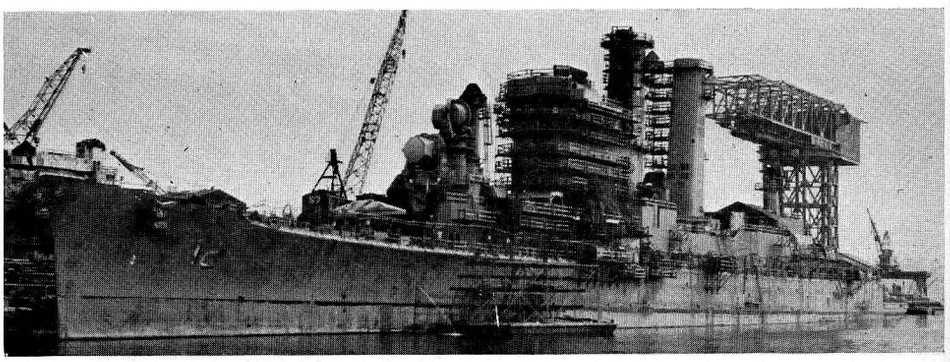
They have a combination of "Talos" and "Tartar" surface-to-air missile systems with "Talos" mounted on twin launchers fore and aft, and "Tartar" launchers installed amidships. "Regulus" launchers can be installed as required. All superstructure and gun mountings were removed, and they were rebuilt to provide for ASW weapons in addition to missiles, including ASROC and sonar.

The design includes provision for an 8 missile "Polaris" launching system which may be installed at a later date.



HELENA

1961, United States Navy, Official



COLUMBUS (under conversion)

1961, courtesy Puget Sound Naval Shipyard

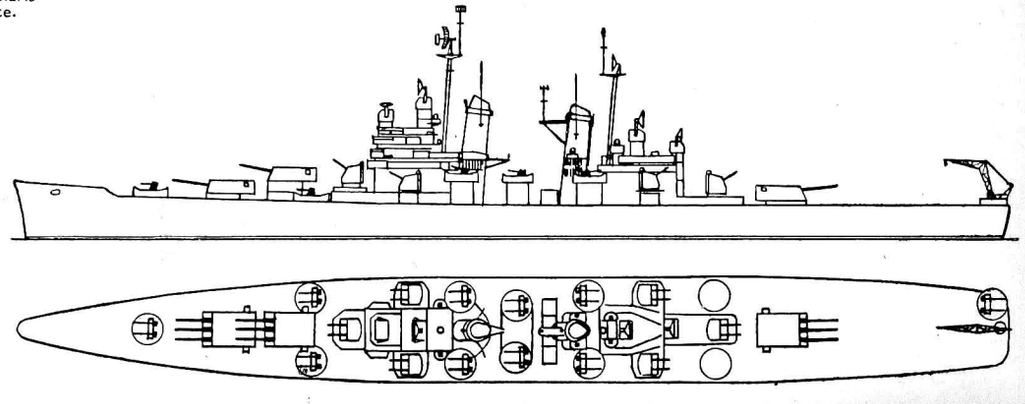
No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
CA 68	*Baltimore*	Bethlehem Steel Co. Quincy	26 May 1941	28 July 1942	15 Apr. 1943
CA 71	*Quincy*		9 Oct. 1941	23 June 1943	15 Dec. 1943
CA 72	*Pittsburgh*		3 Feb. 1943	22 Feb. 1944	10 Oct. 1944
CA 73	*St. Paul*		3 Feb. 1943	16 Sep. 1944	17 Feb. 1945
CG 12 (ex-CA74)	*Columbus*		28 June 1943	30 Nov. 1944	8 June 1945
CA 75	*Helena*		9 Sep. 1943	28 Apr. 1945	4 Sep. 1945
CA 130	*Bremerton*	New York S.B. Corpn.	1 Feb. 1943	2 July 1944	29 April 1945
CA 131	*Fall River*		12 Apr. 1943	13 Aug. 1944	1 July 1945
CA 132	*Macon*		14 June 1943	15 Oct. 1944	26 Aug. 1945
CA 133	*Toledo*		13 Sep. 1943	6 May 1945	27 Oct. 1946
CA 135	*Los Angeles*	Philadelphia Navy Yard	28 July 1943	20 Aug. 1944	22 July 1945
CG 11 (ex-CA 136)	*Chicago*		28 July 1943	20 Aug. 1944	10 Jan. 1945

Photograph Notes

Photograph of "Regulus" guided missile being launched from *Helena*, and port broadside view of *Macon* in the 1957-58 edition. Port quarter view of *Baltimore* in 1954-55 to 1958-59 editions, larger starboard broadside view of *Los Angeles* in the 1958-59 to 1960-61 editions, port bow oblique elevated view of *Helena* in the 1957-58 to 1960-61 editions, and port quarter view of *St. Paul* in the 1959-60 and 1960-61 editions.

Notes to Drawing

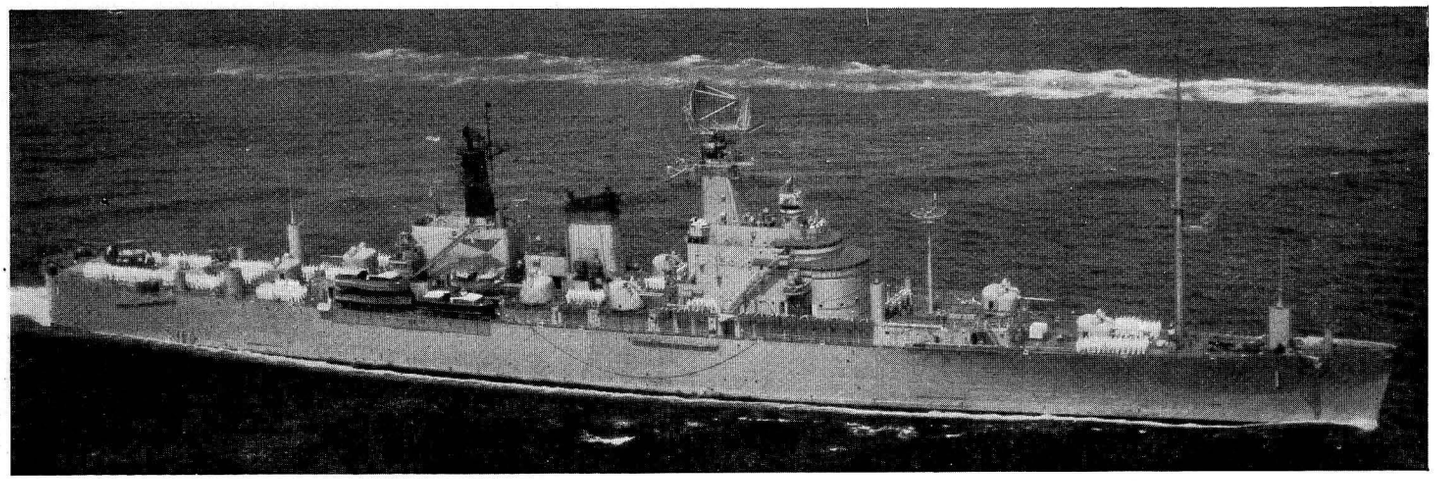
Port elevation and plan of "Baltimore" class not converted. Scale: 128 feet=1 inch.



Recent Disposals

The heavy cruisers *Augusta*, CA 31, *Chester*, CA 27 and *Louisville*, CA 28, of the "Chester" class; the *Portland*, CA 33; the *New Orleans*, CA 32, *Minneapolis*, CA 36, *Tuscaloosa*, CA 37 and *San Francisco*, CA 38, of the "New Orleans" class; and the *Wichita*, CA 45, were scrapped in 1959 (stricken from the Navy List on 1 Mar. 1959).

COMMAND SHIP (CC)

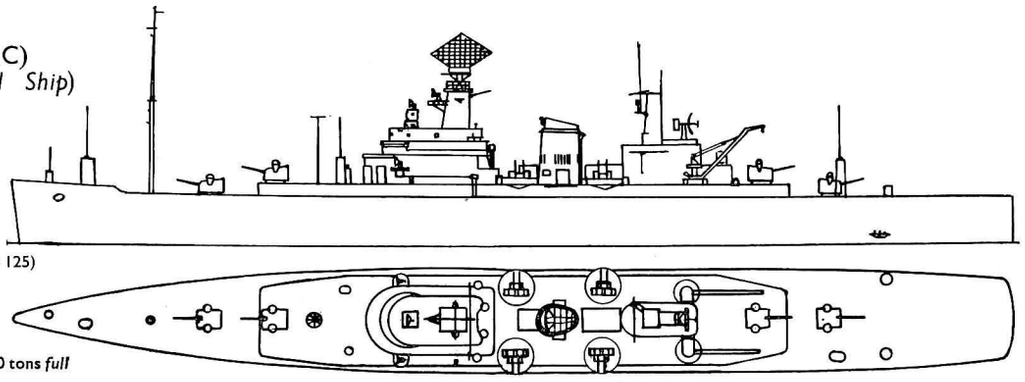


NORTHAMPTON

1957, *United States Navy, Official*

Formerly rated as
Tactical Command Ship (CLC)
(Ex-Cruiser, Task Fleet Command Ship)

1 " Northampton " Type

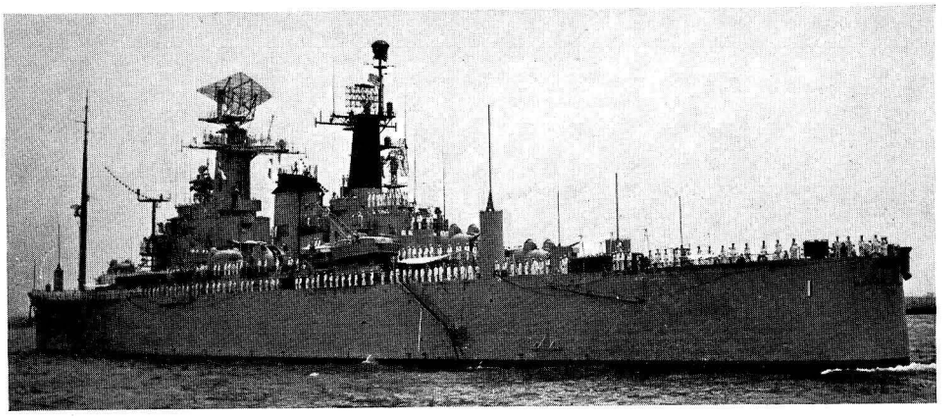


NORTHAMPTON

No.:	CC 1 (ex-CLC 1, ex-CA 125)
Builders:	Bethlehem Co., Quincy, Mass.
Laid down:	31 Aug. 1944
Launched:	27 Jan. 1951
Completed:	7 Mar. 1953
Displacement:	14,700 tons *standard* (17,200 tons *full load*)
Dimensions:	Length: 676 (*o.a.*) feet. Beam: 71 feet. Draught: 29 (*max.*) feet
Guns:	4—5 inch, 54 cal. as main armament, 8—3 inch, 70 cal. AA. (see *Gunnery Notes*)
Aircraft:	2 helicopters
Armour:	6" side, 3" + 2" decks
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 120,000=33 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	2,500 tons
Complement:	1,675 (war), 1,251 (peace)—56 officers, 1,195 men

General Notes

This vessel was originally designed as a heavy cruiser of the modified " Oregon City " class numbered CA 125. She was 57 per cent constructed as such when she was cancelled on 11 August 1945. She was re-ordered 1 July 1948, and re-designed as a Task Force (later Tactical) Command Ship with the new rating of CLC 1, for the exclusive use of Task Force commanders in conducting either operations of fast moving carrier task forces or an amphibious assault. Accommodation and equipment were modified accordingly. She is fully air-conditioned with an installation at least as extensive as that of the largest heavy cruiser *Salem* to which she now approximates in displacement. She was commissioned on 7 Mar 1953, to fulfil the same functions as an AGC., i.e. as Operations-Communications-Headquarters Ship, but has more speed, manoeuvrability, armament, and anti-aircraft fire than an AGC. Reported to have been designed to resist atomic attack. Has large installation of newly developed electronic equipment, a vast communications network, an imposing array of electronic antennae, and features one of the largest seaborne radar aerials in the world. She is one deck higher than a normal cruiser to provide for additional office space, and has the tallest unsupported mast afloat (125 feet). Seven months trials to Nov. 1954. First operational assignment was to Atlantic Fleet Amphibious Force as temporary flagship in Nov. 1954. Has served as Second Fleet flagship, based at Norfolk, Va. She was reclassified as Command Ship (CC) on 15 Apr. 1961, and was relieved as 2nd Fleet Flagship by *Little Rock* in Oct. 1961.



NORTHAMPTON (port quarter view showing radar arrays)

1959, *Ted Stone*

Gunnery Notes

The main armament comprises four 5 inch dual purpose guns of a new model disposed in single turrets, two forward and two aft, " B " and " X " superfiring over " A " and " Y " respectively. They are reported to have a rate of fire of 54 rounds per minute. The anti-aircraft battery includes eight 3 inch weapons, also of a new pattern, disposed in twin turrets, two on each side amidships abreast the funnel.

Photograph Notes

A starboard bow oblique aerial view of *Northampton* appears in the 1957-58 edition. and a starboard broadside silhouette view in the 1958-59 and 1959-60 editions.

Notes to Drawing

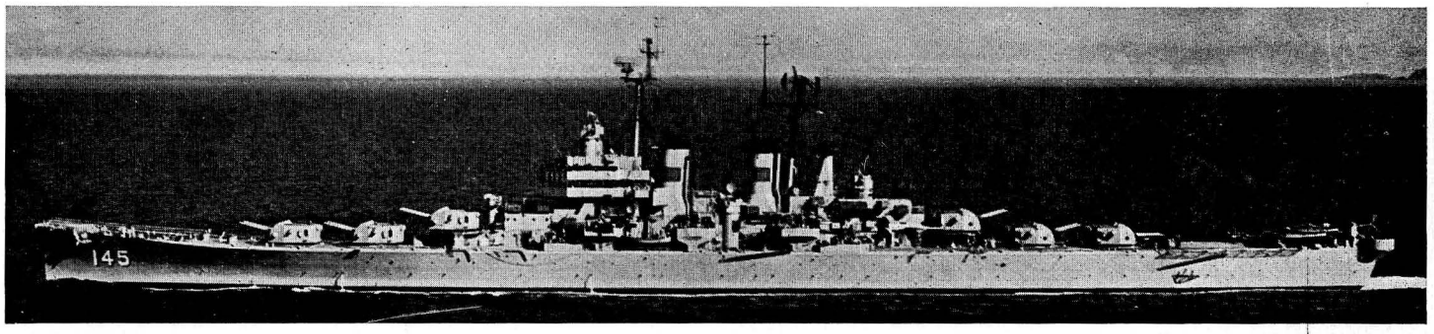
Port elevation and plan of *Northampton* drawn 1954 to a scale of 128 feet=1 inch. The forward 5 inch gun is actually off the centre line to starboard.



WORCESTER (starboard broadside) see next page

B. L. Devenish-Meares

LIGHT CRUISERS (CL)

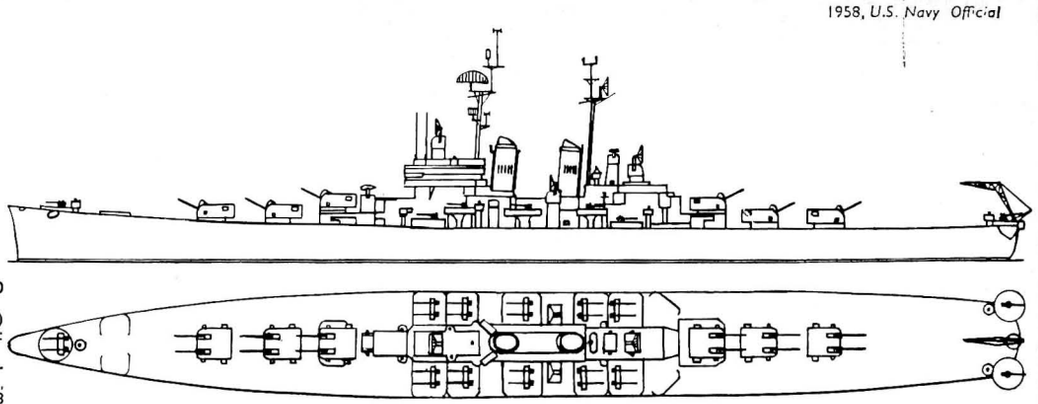


ROANOKE

1958, *U.S. Navy Official*

2 "Worcester" Class

	ROANOKE	WORCESTER
Name:	*Roanoke*	*Worcester*
No.:	CL 145	CL 144
Builders:	New York Shipbuilding Corporation	New York Shipbuilding Corporation
Laid down:	15 May 1945	29 Jan. 1945
Launched:	16 June 1947	4 Feb. 1947
Completed:	4 Apr. 1948	25 June 1948



Displacement:	14,700 tons *standard* (18,500 tons *full load*)
Dimensions:	Length: 668 (*w.l.*), 679½ (*o.a.*) feet. Beam: 70⅞ feet. Draught: 25 (*max.*) feet
Guns:	12—6 inch. 47 cal., d.p. (semi-automatic), 24—3 inch, 50 cal., c.p. (rapid fire), *Worcester* 18
Aircraft:	1 helicopter
Armour:	6"—3" side, 4" turrets, 3"+2" decks
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 120,000=32 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	3,300 tons
Radius.	12,000 miles at 15 kts.
Complement:	1,170 (70 officers, 1,100 men) (peace), 1,700 (war). *Worcester* carried 1,033 men recently

General Notes

Both ordered on 15 June 1943. Transferred from the Atlantic Fleet to the Pacific Fleet, 1955-56. These ships, which are larger than most heavy cruisers, are nevertheless rated as light cruisers by Treaty definitions. Both decommissioned in 1958-59 at San Francisco.

Gunnery Notes

Both ships have 6 inch dual purpose guns of a new automatic model in six twin turrets, and 3 inch in eleven twin mounts of a new type, and two single mounts.

Class Notes

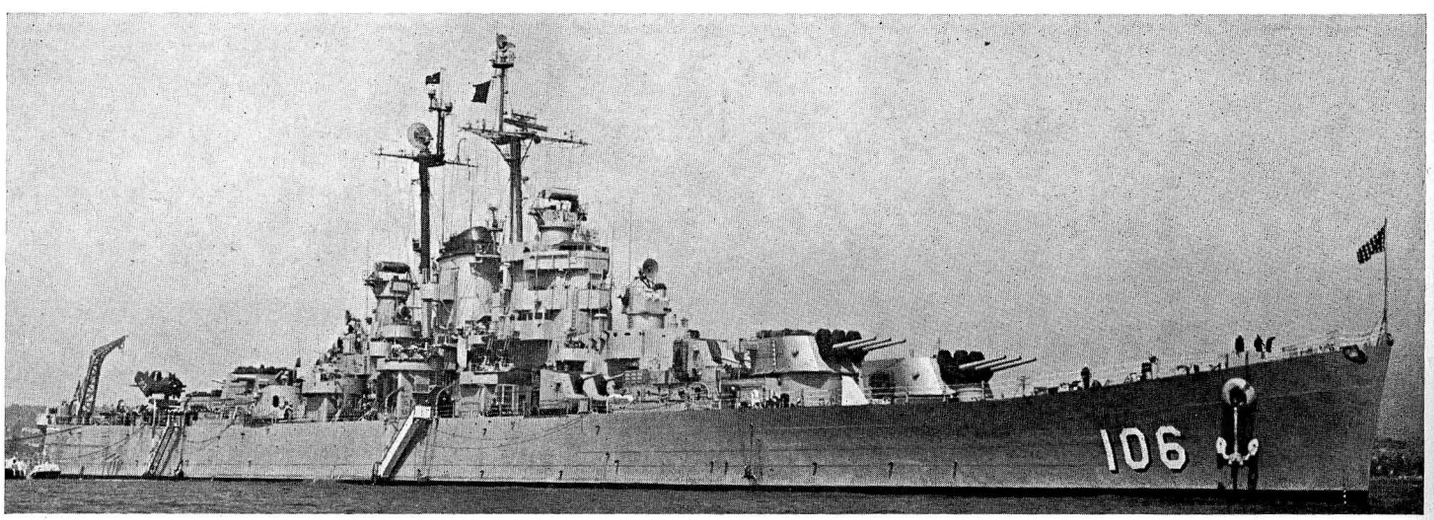
Two incomplete sister ships, *Vallejo* (146) and *Gary* (147) were cancelled on 11 Aug. 1945. Six additional ships, CL 154-159, were cancelled in 1945.

Photograph Notes

Starboard broadside and quarter views of *Worcester* and starboard bow view of *Roanoke* in the 1957-58 edition. Port bow oblique aerial view of *Worcester* in the 1959-60 edition.

Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.



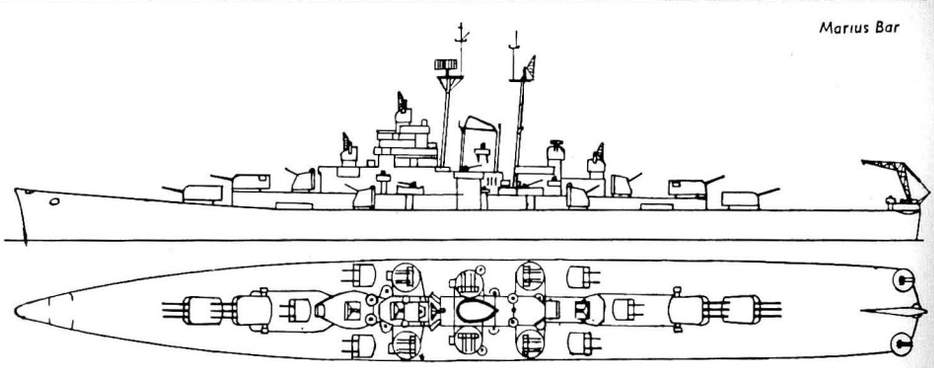
FARGO

Marius Bar

1 "Fargo" Class

FARGO

No.:	CL 106
Builders:	New York Shipbuilding Corpn.
Laid down:	23 Aug. 1943
Launched:	25 Feb. 1945
Completed.	9 Dec. 1945
Displacement:	10,500 tons *standard* (14,055 tons *full load*)
Dimensions:	Length: 600 (*w.l.*), 610 (*o.a.*) feet. Beam: 66 feet. Draught (at *normal* displacement): 20 (*mean*), 25 (*max.*) feet
Guns:	12—6 inch, 47 cal. 12—5 inch, 38 cal., d.p., 24—40 mm. AA., 19—20 mm. AA.
Aircraft:	3 seaplanes (originally carried)
Catapults:	2
Armour.	5"—1½" side, 5"—3" gunhouses, 3"+2" decks
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 100,000=32·5 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel.	2,500 tons
Radius:	9,500 miles at 15 kts.
Complement	916 (peace), 1 200 (war)



General Notes

In design this ship is a modified version of the "Cleveland" type with single funnel and simplified superstructure, intended to enlarge the area of fire of the anti-aircraft armament. Out of commission, in the Atlantic Reserve Fleet.

Recent Disposal

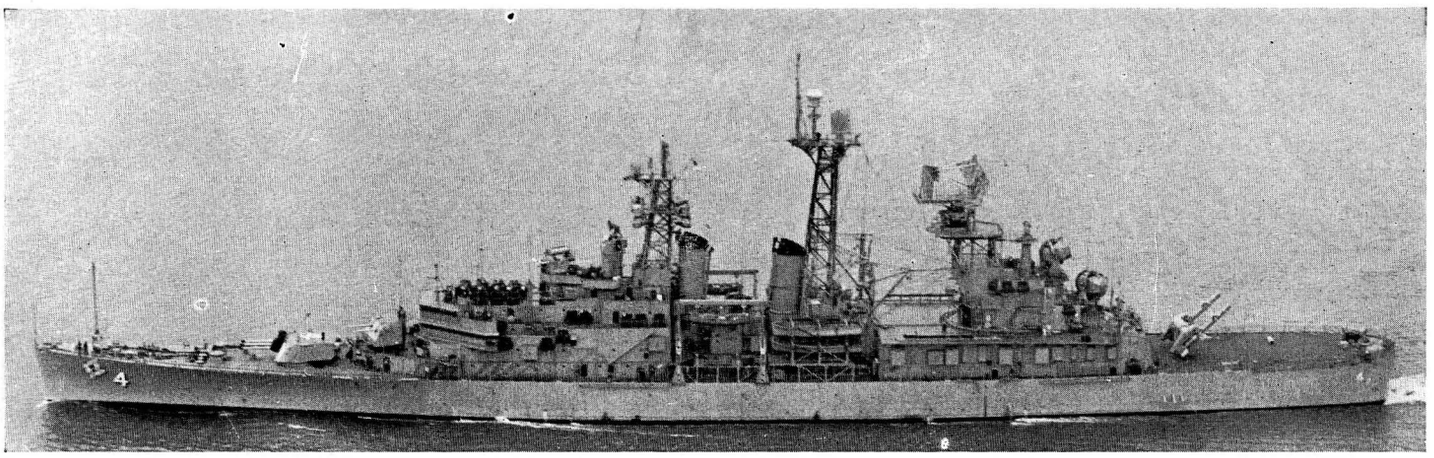
Sister ship *Huntington* was stricken from the Navy List on 1 Sep. 1961.

Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

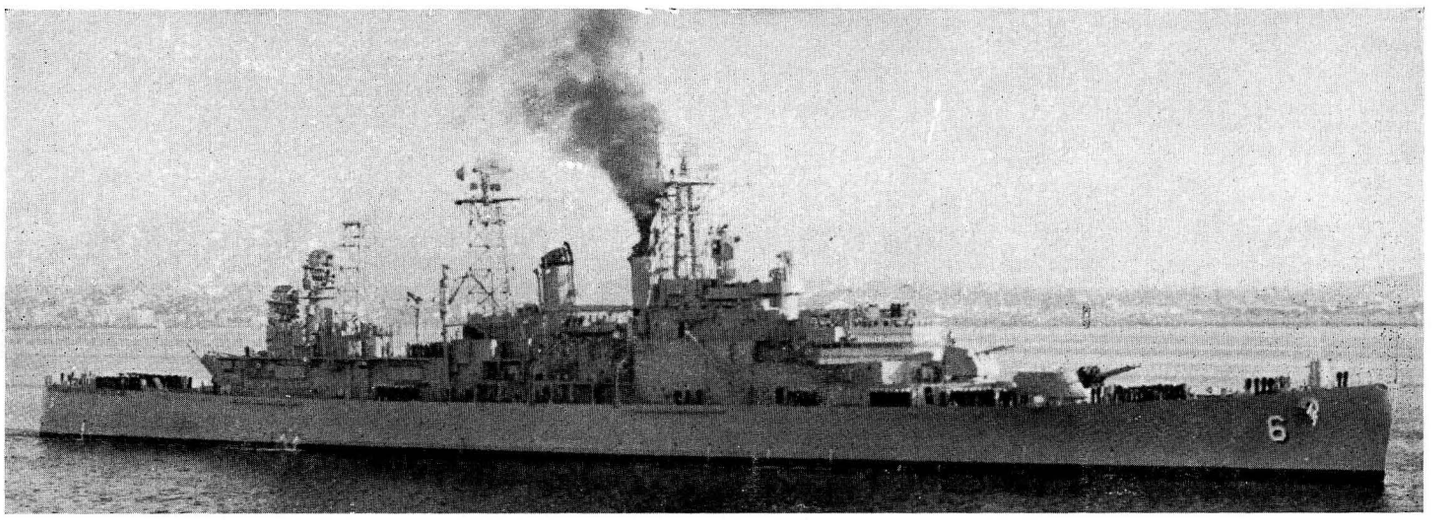
Photograph Notes

A large starboard bow oblique aerial view of *Fargo* appears in the 1958-59 and earlier editions, and starboard aerial broadside and starboard bow aerial views of *Huntington* in the 1959-60 edition.



LITTLE ROCK

1960, *United States Navy, Official*



PROVIDENCE

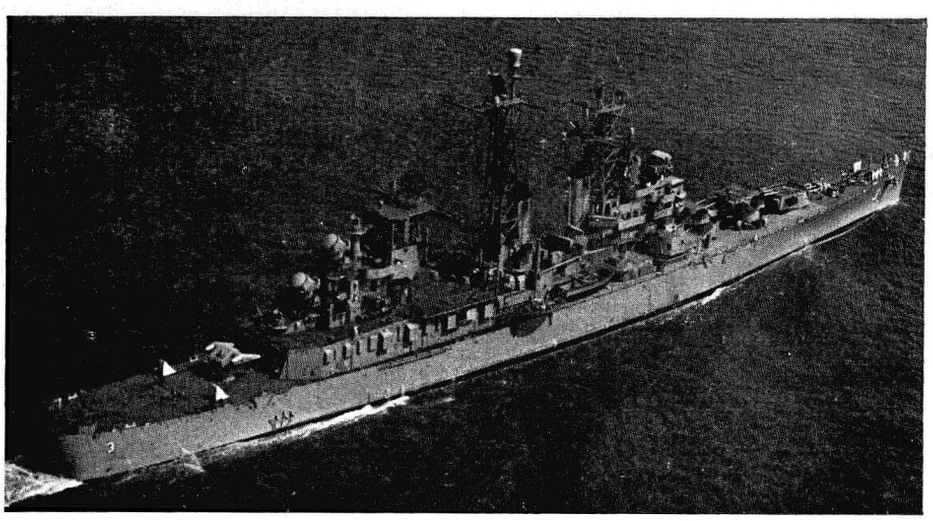
1960, *United States Navy, Official*

Guided Missile Light Cruisers (CLG)

6 Converted "Cleveland" Class

GALVESTON
LITTLE ROCK
OKLAHOMA CITY
PROVIDENCE
SPRINGFIELD
TOPEKA

Displacement:	10,670 tons *standard* (14,600 tons *full load*)
Dimensions:	Length: 600 (*w.l.*), 610 (*o.a.*) feet Beam: 66 feet. Draught: 25 (*max.*) feet
Guns:	*Galveston* and *Topeka*: 6—6 inch, 47 cal.; 6—5 inch, 38 cal. d.p. *Little Rock*, *Oklahoma City*, *Providence* and *Springfield*: 3—6 inch, 47 cal.; 2—5 inch, 38 cal. d.p. (twin mounting)
Guided Missiles:	*Galveston*, *Little Rock*, *Oklahoma City*: One "Talos" twin launcher aft, with 46 missiles. *Providence*, *Springfield*, *Topeka*: One "Terrier" twin launcher aft with 120 missiles.
A/S weapons:	Launchers for ASW torpedoes
Armour:	5" belt, 5" decks, 5"—3" gunhouses
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 100,000=33 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	2,100 tons
Radius:	7,500 miles at 15 kts.
Complement:	1,070 (70 officers and 1,000 enlisted men)



GALVESTON (aerial view off starboard quarter)

1959, *United States Navy, Official*

General Notes

These six former light cruisers of the "Cleveland" class (CL) were converted into guided missile light cruisers (CLG), *Galveston* under the 1956 Fiscal program and the other five under the 1957 Fiscal program. They have a conventional armament forward, and amidships, and guided missile launchers aft, three being armed with "Terrier" missiles and three with "Talos" missiles.

Flagship Notes

Little Rock, *Oklahoma City*, *Providence* and *Springfield* were refitted as flagships, the navigating bridge and forward superstructure being reconstructed to provide for flag spaces and to include high frequency radio systems with side band capability. Other work, such as improvement of habitability, was also done in conjunction with the installation of missile capabilities. *Springfield* became the flagship of the 6th Fleet on 14 Dec. 1960. *Oklahoma City* became the flagship of the 7th Fleet on 28 Dec. 1961, but was replaced as such by *Providence* at Yokosuka, Japan on 21 May, 1962. *Little Rock* became 2nd Fleet Flagship in Oct. 1961, replacing *Northampton*.

Construction Notes

For builders and dates of laying down, launch, and original completion, see table on next page under "Vincennes" class.

Guided Missile Notes

The Bendix "Talos" ramjet-powered surface-to-air missile, the principal armament in the *Galveston*, has a range of more than 65 miles and is able to carry a nuclear warhead. See full notes under "Long Beach", the nuclear powered guided missile cruiser under construction, on a previous page.

Torpedo Notes

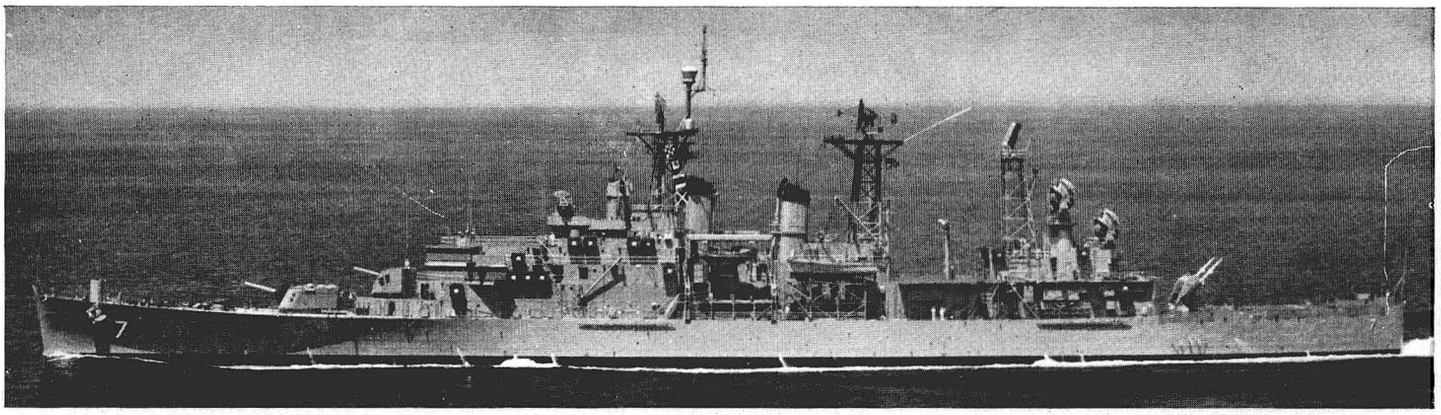
The guided missile conversions are to be fitted with torpedo launchers for anti-submarine warfare torpedoes.

Conversion Notes

Galveston, formerly CL 93, was converted to a guided missile light cruiser at Philadelphia Naval Shipyard. She was reclassified CLG 93 on 4 Feb. 1956, and CLG 3 on 23 May 1957. Conversion began on 15 Aug. 1956 and was completed on 5 Sep. 1958 (commissioned 28 May 1958). *Topeka* was converted at New York Naval Shipyard; *Oklahoma City* at Bethlehem Pacific Coast Steel Corp., San Francisco, Calif.; *Little Rock* at New York Shipbuilding Corp. ,Camden, N.J.; and *Providence* at Boston Naval Shipyard. *Providence* conversion began 1 June 1957, and was completed on 30 Sep. 1959 (commissioning date 17 Sep. 1959). *Topeka* conversion began on 19 Aug. 1957 and was completed on 13 Mar. 1960 (commissioning date 26 Mar. 1960). *Little Rock* conversion began on 30 Jan. 1957 and she was commissioned on 3 June 1960. *Oklahoma City* began conversion on 21 May 1957 and she was commissioned on 7 Sep. 1960. *Springfield* conversion began on 1 Aug. 1957 at Bethlehem Steel Co., Quincy, Mass.' but she was moved to Boston Naval Shipyard on 22 Mar. 1960 for completion and commissioned on 2 July 1960.

Photograph Notes

Port broadside and starboard bow views of *Galveston* and starboard bow view of *Providence* (Addenda) appear in the 1959-60 edition.



SPRINGFIELD

1961, *United States Navy, Official*

Light Cruisers (CL)

8 "Vincennes" ("Cleveland") Class

AMSTERDAM
ASTORIA (ex-*Wilkes-Barre*)
ATLANTA
PASADENA
PORTSMOUTH
VICKSBURG (ex-*Cheyenne*)
VINCENNES (ex-*Flint*)
WILKES-BARRE

Displacement:	10,500 tons *light* (13,755 tons *full load*)
Dimensions:	Length: 600 (*w.l.*), 610 (*o.a.*) feet. Beam: 66 feet. Draught: 20 (*mea.*), 25 (*max.*) feet
Guns:	12—6 inch, 47 cal., 12—5 inch, 38 cal. (d.p.), paired, 24 to 28—40 mm. AA., 19—20 mm. AA.
Armour:	5"-1½" side, 3"×2" decks, 5"-3" gun-houses
Machinery:	General Electric geared turbines 4 shafts. S.H.P.: 100,000=33 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	2,100 tons
Range:	7,500 miles at 15 kts.
Complement:	916 (peace), 1,200 (war)

General Notes

With 36 units (not including *Youngstown*, CL 94, cancelled on 11 Aug. 1945 when 55 per cent complete), this was numerically the largest group of cruisers of a single design ever put in hand. 27 were completed as cruisers, but nine originally ordered from New York Shipbuilding Corporation were converted into aircraft carriers of the "Independence" class. All the survivors of this class (which originally carried 3 aircraft launched from one or two catapults) are out of commission except those converted to guided missile cruisers. (See names of stricken ships of this class under *Recent Disposals* below).

Appearance Notes

First seven ships (CL 55-58, 60, 62, 63) had round bridge fronts. Remaining 8 ships of this class have a rectangular pilot house with a walk around the front.

Class Notes

Galveston, *Little Rock*, *Oaklahoma City*, *Providence*, *Springfield* and *Topeka* of this class have been converted to guided missile light cruisers (see previous page).

Photograph Notes

Starboard aerial view of *Birmingham*, port bow view of *Oklahoma City* and four photographs of "Terrier" guided missiles in the 1957-58 edition. Port bow view of *Manchester* in the 1958-59 and earlier editions. Photograph of "Talos" missile on launcher in the Addenda of the 1958-59 edition. A larger port broadside view of *Manchester* appears in the 1959-60 and 1960-61 editions.

Reclassification Note

CLG 93 and CLs 92, 91, 82, 66 and 67 were reclassified as CLGs 3, 4, 5, 6, 7 and 8, respectively on 23 May 1957.

Conversion Notes

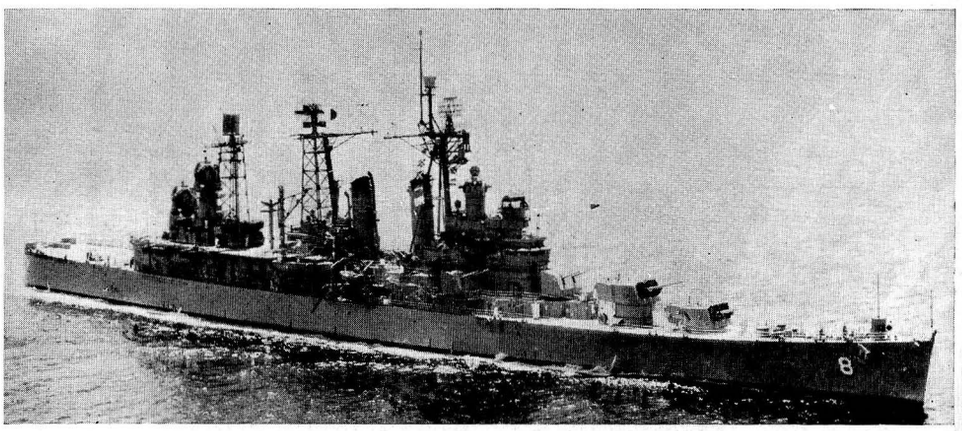
In addition to those marked CLG it was originally reported that *Vincennes* (CL 64), *Astoria* (CL 90), *Amsterdam* (CL 101) and *Atlanta* (CL 104) would eventually be converted to guided missile cruisers (CLGs). Action was postponed on the conversion of a guided missile cruiser under the 1960 conversion programme.

Notes to Drawing

Port elevation and plan of unconverted "Vincennes" ("Cleveland") class. Scale: 128 feet=1 inch.

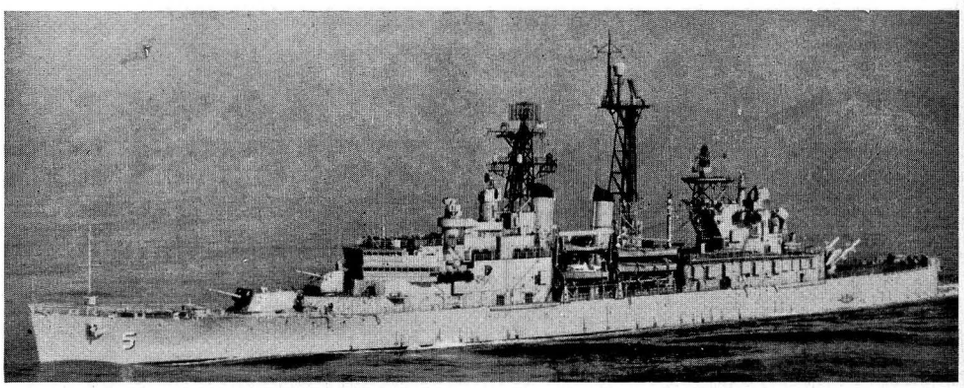
Recent Disposals

Birmingham, CL 62, *Cleveland*, CL 55, *Columbia*, CL 56, *Denver*, CL 58, *Houston*, CL 81, *Mobile*, CL 63, *Montpelier*, CL 57 and *Santa Fe*, CL 60, of the "Cleveland" class, were scrapped in 1959 (stricken from the Navy List on 1 Mar. 1959). *Duluth*, CL 87, was stricken on 1 Jan. 1960 and *Manchester*, CL 83, at the end of 1960. *Biloxi*, CL 80, *Dayton*, CL 105, and *Miami*, CL 89, were stricken on 1 Sep. 1961.



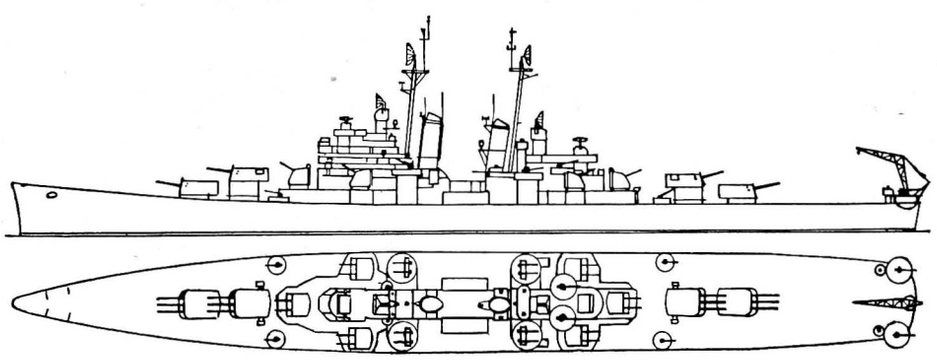
TOPEKA

1961, *United States Navy, Official*

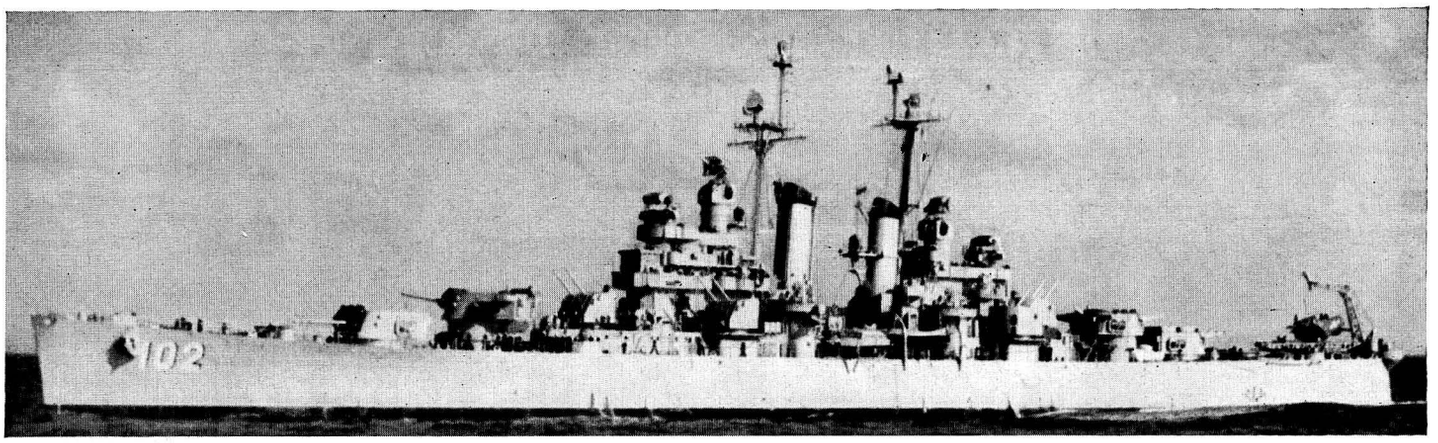


OKLAHOMA CITY

1961, *United States Navy, Official*



No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
CL 103	*Wilkes-Barre*	New York S.B. Corpn.	14 Dec. 1942	24 Dec. 1943	1 July 1944
CL 104	*Atlanta*		25 Jan. 1943	6 Feb. 1944	3 Dec. 1944
CL 64	*Vincennes*	Bethlehem Co., Quincy	7 Mar. 1942	17 July 1943	21 Jan. 1944
CL 65	*Pasadena*		6 Feb. 1943	28 Dec. 1943	8 June 1944
CLG 7 (ex-CL 66)	*Springfield*		13 Feb. 1943	9 Mar. 1944	8 Sep. 1944
CLG 8 (ex-CL 67)	*Topeka*		21 Apr. 1943	19 Aug. 1944	23 Dec. 1944
CLG 6 (ex-CL 82)	*Providence*		27 July 1943	28 Dec. 1944	15 May 1945
CL 90	*Astoria*	Cramp S.B. Co.	6 Sep. 1941	6 Mar. 1943	17 May 1944
CLG 5 (ex-CL 91)	*Oklhoma City*		8 Mar. 1942	20 Feb. 1944	22 Dec. 1944
CLG 4 (ex-CL 92)	*Little Rock*		6 Mar. 1943	27 Aug. 1944	17 June 1945
CLG 3 (ex-CL 93)	*Galveston*		20 Feb. 1944	22 Apr. 1945	25 May 1946
CL 86	*Vicksburg*	Newport News Co.	26 Oct. 1942	14 Dec. 1943	12 June 1944
CL 101	*Amsterdam*		3 Mar. 1943	25 Apr. 1944	8 Jan. 1945
CL 102	*Portsmouth*		28 June 1943	20 Sep. 1944	25 June 1945



PORTSMOUTH (when in commission) see previous page

United States Navy, Official

ANTI-AIRCRAFT CRUISERS (CLAA)

4 " Juneau " Class

FLINT (ex-*Spokane*) **SPOKANE**

FRESNO **TUCSON**

Displacement:	6,000 tons *standard* (8,200 tons *full load*)
Dimensions:	Length: 541 feet. Beam: 52⅝ feet. Draught: 20 (*mean*), 25 (*max.*) feet
Guns:	12—5 inch, 38 cal. (d.p.), 24 to 32—40 mm. AA. 12 to 16—20 mm. AA.
Armour:	3½" side, 2" deck
Machinery:	Westinghouse geared turbines. 2 shafts. S.H.P.: 75,000=35 kts. (*designed*). Rated speed in service was not above 32 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	1,450 tons
Radius:	7,500 miles at 15 kts.
Complement:	579 (peace), 700 (war)

General Notes

Originally rated as light cruisers (CL). All recategorised as anti-aircraft cruisers (CLAA). Arrangement of main armament forward and aft is reminiscent of British " Dido " class. Bridges are reported to be armoured. The 6 earlier ships had 8—21 inch torpedo tubes in quadruple deck mountings which were removed in 1945. All this class are out of commission.

Class Notes

Second World War losses: *Atlanta*, *Juneau*. (Two new ships of these names were built, of which the former belongs to the larger " Vincennes " class.)

Gunnery Notes

In *Spokane* and *Fresno* (see lower elevation), " B " and " X " turrets were placed a deck lower than in earlier ships (top elevation), and the torpedo tubes were omitted from the original design to improve stability.

Torpedo Notes

Torpedo tubes have been removed from *Flint* and *Tucson*.

Photograph Notes

A larger starboard broadside view of *Juneau* appears in the 1952-53 to 1960-61 editions, and a port bow view of *Spokane* appears in the 1952-53 to 1956-57 editions.

Notes to Drawings

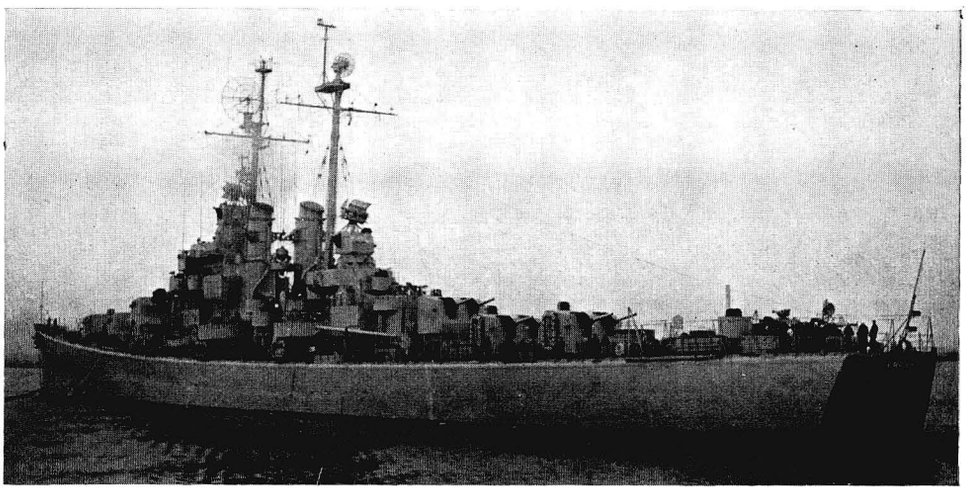
Port elevation of *Flint* and *Tucson*. Port elevation and plan of *Fresno* and *Spokane*. Scale: 128 feet=1 inch.

Recent Disposals

Four sister ships of this class, namely the *San Diego*, CLAA 53, *San Juan*, CLAA 54, *Oakland*, CLAA 95 and *Reno*, CLAA 96, were scrapped in 1959 (stricken from the Navy List on 1 Mar. 1959). *Juneau* was stricken on 1 Nov. 1959.

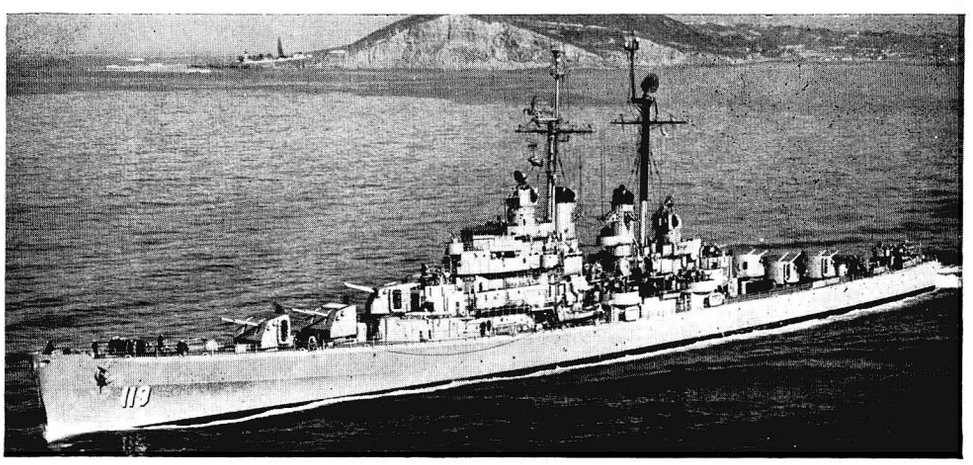
No.	*Name*	*Builders*
CLAA 97	*Flint*	Bethlehem Steel Co., S. Francisco
CLAA 98	*Tucson*	Bethlehem Steel Co., S. Francisco
CLAA 120	*Spokane*	Federal S.B. & D.D. Co., Kearny
CLAA 121	*Fresno*	Federal S.B. & D.D. Co., Kearny

Name	*Laid down*	*Launched*	*Completed*
Flint	23 Oct. 1942	25 Jan. 1944	31 Aug. 1944
Tucson	23 Dec. 1942	3 Sep. 1944	3 Feb. 1945
Spokane	15 Nov. 1944	22 Sep. 1945	17 May 1946
Fresno	12 Feb. 1945	5 Mar. 1946	27 Nov. 1946



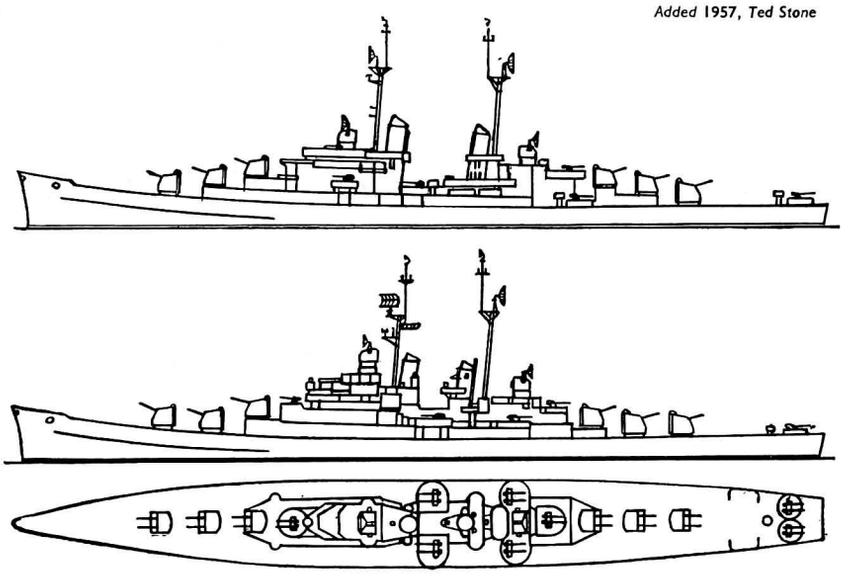
FRESNO

Added 1957, U.S. Navy, Official

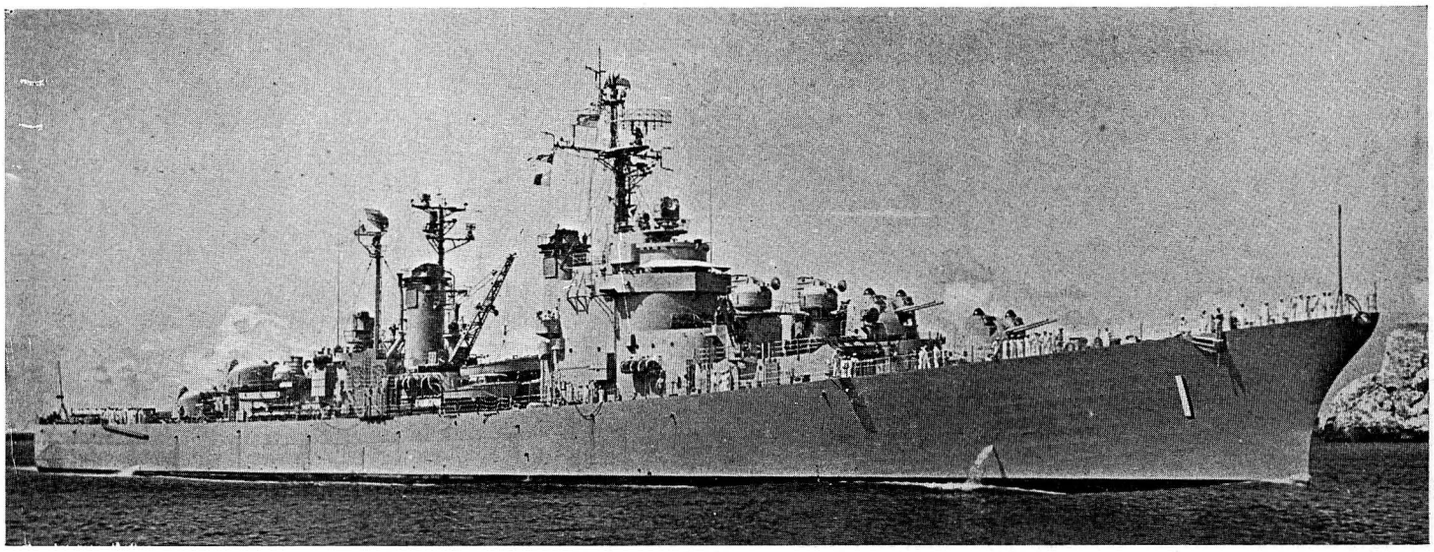


JUNEAU

Added 1957, Ted Stone



DESTROYER LEADER (DL) Former Light Cruiser



NORFOLK

1957, *courtesy "Our Navy"*

Officially rated as **Frigate** (DL) (Formerly rated as *Cruiser, Hunter Killer Ship*, CLK)

1 "Norfolk" Type

NORFOLK

No.:	DL 1 (ex-CLK 1)
Builders:	New York Shipbuilding Corporation, Camden, New Jersey
Ordered:	17 Nov. 1948
Laid down:	1 Sep. 1949
Launched:	29 Dec. 1951
Completed:	4 Mar. 1953
Displacement:	5,600 tons *standard* (7,300 tons *full load*)
Dimensions:	Length: 520 (*w.l.*), 540½ (*o.a.*) feet. Beam: 54½ feet. Draught: 26 (*max.*) feet
Guns:	8—3 inch, 70 cal. (twin mounts);
Tubes:	4 Mark 24
A/S weapons:	ASROC. 4 Mark 108 A.S.W. rocket launchers. 8—21 inch fixed torpedo tubes
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 80,000= 32 kts. (34 kts. *max.*)
Boilers:	4 Babcock & Wilcox 2 drum, 1,200 lb. per sq. in. pressure, 950 deg. F.
Oil fuel:	1,400 tons
Radius:	7,000 miles at 15 kts.
Complement:	480

General Notes

Designed as a special category of anti-submarine vessel of cruiser size and entirely novel type to engage in hunter killer operations even in the worst weather, and incorporates lessons learned at Bikini in her construction. Built on a true cruiser hull. Cost, exclusive of armament, reported to be $44,000,000. Re-rated in 1951 as a Destroyer Leader (DL), a category new to the U.S. Navy, but reclassified as a Frigate (DL) on 1 Jan. 1955. Fitted with newly developed communications equipment including radar, sonar, and electronics gear. Will serve as flagship for destroyer screens attached to fast carrier forces.

Anti-Submarine Notes

Used primarily as a test ship for new anti-submarine warfare equipment. The largest and heaviest sonar dome (39,500 lbs., or nearly 18 tons) was installed at Norfolk Naval Shipyard in 1958.

Fitted with ASROC (anti-submarine rocket) and has successfully completed evaluation of this new weapon. The ASROC system consists of an integrated sonar device, an electrical digital fire-control computer, an eight missile launching device, and the ASROC missiles themselves. Either a rocket propelled torpedo or depth charge can be fired from the launcher.

Gunnery Notes

The 8—20 mm. AA. guns (twin mounts) have been removed.

Engineering Notes

The trial speed is reported to have exceeded 34 knots. (35 knots reached.) Shafts fitted with six-bladed propellers.

Appearance Notes

Has hull form resembling that of the cruisers of the "Juneau" class, with tall bridge structure and curved stem. Note her bow view similarity to "Mitscher" class, though she is a much larger ship.

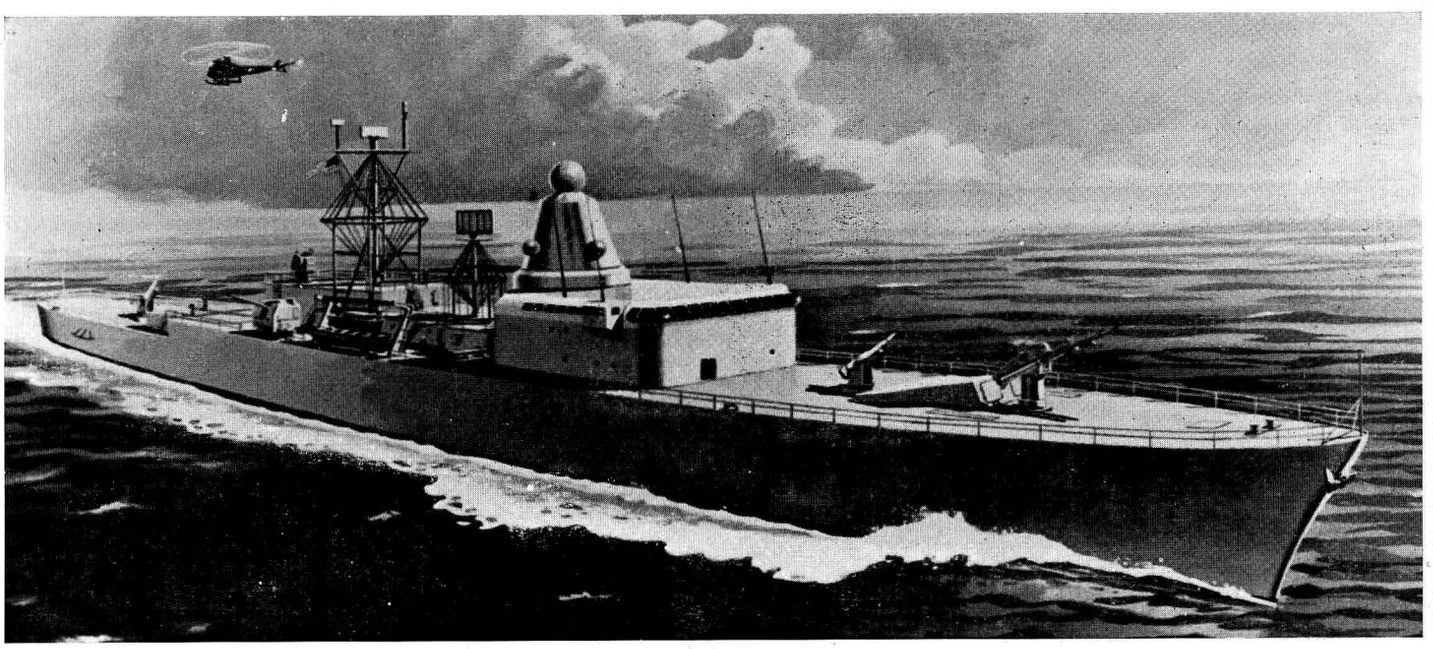
Photograph Notes

Stern cleared for anti-submarine helicopter operations. A starboard bow oblique aerial view appears in the 1959-60 edition, and a starboard quarter view in the 1957-58 to 1959-60 editions.

Class Notes

Two Hunter Killer Ships were authorised in 1947. *Norfolk* (originally CLK 1), subsequently DL-1 (Destroyer Leader), was commissioned for service on 4 March 1956. The construction of her sister ship, CLK 2, was deferred in 1949.

NUCLEAR POWERED GUIDED MISSILE ARMED DESTROYER LEADERS DLGN



DLGN (Largest destroyer/frigate type ever designed)

1962, *United States Navy, Official*

Officially Rated as **Nuclear Powered Guided Missile Frigates** (DLGN)

1 Projected

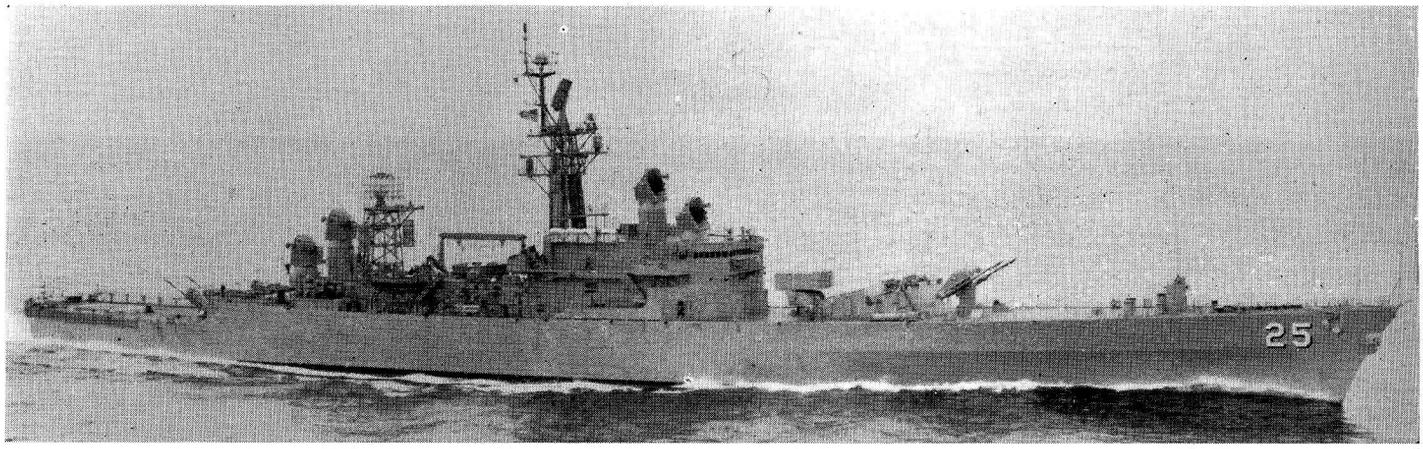
DLGN

Displacement:	circa 9,000 tons *full load*
Dimensions:	Length: just over 600 feet
Guided Missiles:	1 twin launcher for longe range "Typhon" missiles; 2 single launchers for short range "Typhon" system missiles
Guns:	2—5 inch d.p. (single)
A/S weapons:	2 triple tube A/S torpedo launchers; ASROC and DASH

Notes

Requested in the Fiscal Year 1963 Program. Long range and medium-range surface-to-air, surface-to-surface, and surface to missile capability. Equipped with long range sonar, homing and wire-guided torpedoes and NTDS (Naval Tactical Data System). This is the largest vessel in the present broad, and now practically merging, destroyer-frigate category ever designed.

Nuclear Powered Guided Missile Armed Destroyer Leaders—*continued*



BAINBRIDGE. World's first nuclear powered guided missile frigate, on initial trials

1962, *United States Navy, Official*

Nuclear Powered Guided Missile Frigates (DLGN)—*continued*

1 New Construction

DLGN 35

Displacement:	8,000 tons *full load*
Dimensions:	Length: 565 feet. Beam: 58 feet
Guided Missiles:	" Terrier " twin launchers
Guns:	1—5 inch, 54 cal. forward 2—3 inch, 50 cal. amidships
A/S weapons:	Combined Terrier ASROC launcher aft.

Notes

DLGN 35 was requested in the Fiscal Year 1962 Shipbuilding Program. The contract was awarded to the New York Shipbuilding Corporation, Camden, N.J. in June 1962. To cost about $110,000,000. To be similar to *Bainbridge* but with some major equipment improvements, helicopter landing platform and hangar, bow mounted sonar, Navy Tactical Data System, and 3-coordinate radar.

1 "Bainbridge" Class

BAINBRIDGE

No.:	DLGN 25
Builders:	Bethlehem Steel Company, Quincy, Massachusetts
Laid down:	15 May 1959
Launched:	15 April 1961
Completion:	Nov. 1962 (estimated)
Displacement:	6,500 tons *standard* 7,600 tons *full load*)
Dimensions:	Length: 550 (*w.l.*), 564 (*o.a.*) feet Beam: 57¼ feet Draught: 20 feet
Guided missiles:	2 Advanced " Terrier " surface-to-air twin launchers, mounted fore and aft
Guns:	2—3 inch 50 cal. AA. (twin) amidships
Tubes:	6
A/S weapons:	ASROC launcher forward
Machinery:	2 pressurised water cooled DIG nuclear reactors. Geared turbines. 2 shafts. S.H.P.: Over 60,000=over 30 kts.
Range:	See *Engineering Notes*
Complement:	450

General Notes

Requested in the Fiscal Year 1959 new construction program. First nuclear powered warship of the destroyer type ever to be built in the world. $35,000,000 appropriated for the nuclear power plant. $10,000,000 for early work on design and hull. Total cost $150,000,000.

She is scheduled to be delivered to the Navy in Nov. 1962. In addition to her guided missiles she will carry anti-submarine weapons and conventional armament.

This vessel mounts all the weapons and equipment of the conventionally powered guided missile frigates in a slightly bigger hull. She is bigger than the light cruisers of the " Juneau " class.

America's first nuclear powered guided missile frigate is named after Commodore William Bainbridge, hero of the Tripoli War and the War of 1812.

Engineering Notes

The nuclear power plant was built by the General Electric Co., West Milton, N.Y. The ship has a much greater cruising range at sustained high speeds than conventionally powered frigates. She is capable of steaming 150,000 miles at full power continuously, or more than 400,000 miles at 20 kts. continuously.

The use of nuclear propulsion will give her many advantages. Some of these are the tactical flexibility of steaming at high speeds for long periods of time without the necessity for refuelling and the elimination of smoke stacks and air intakes for blowers (fans), providing greater protection for personnel against the danger of atomic fall-out. Also the elimination of smoke stacks will permit the use of better radar and communication antennae located for optimum performance and free from the deteriorating effects of stack fumes.

Photograph Notes

An artist's impression appears in the 1959-60 edition.

GUIDED MISSILE ARMED DESTROYER LEADERS (DLG)

Officially Rated as

Guided Missile Frigates (DLG)

9 New Construction

BELKNAP DLG 26
DLG 27
DLG 28
DLG 29
DLG 30
DLG 31
DLG 32
DLG 33
DLG 34

Displacement:	7,900 tons *full load*
Dimensions:	Length: 547 feet. Beam: 55 feet
Guided missiles:	Twin " Terrier " launcher forward (for guided missile and AS rockets)
Guns:	1—5 inch and 2—3 inch guns aft
A/S weapons:	ASW tubes amidships

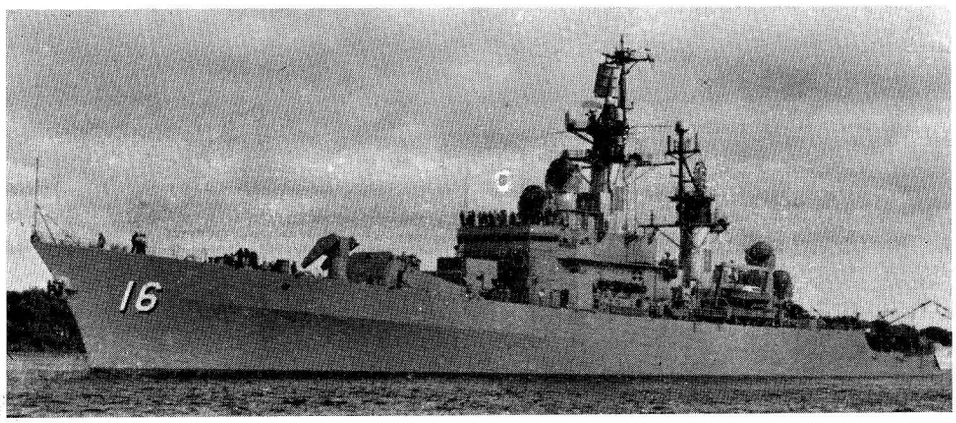
Notes

Provided for under the Fiscal 1961 (first three) and 1962 (other six) building programs. Helicopter platform aft. Drone anti-submarine warfare helicopter, and long range radar and sonar. Builders: Bath Iron Works Corpn. (DLG 26, 27, 28, 32, 34), Puget Sound Naval Shipyard (DLG 29, 31), San Francisco Naval Shipyard (DLG 30 and Todd Shipyards Corpn., San Pedro (DLG 33). *Belknap* was laid down on 5 Feb. 1962. DLG 27 was laid down on 23 Apr. 1962.

9 Improved " Coontz " Class

DALE
ENGLAND
GRIDLEY
HALSEY
HARRY E. YARNELL
LEAHY
REEVES
RICHMOND K. TURNER
WORDEN

Displacement:	5,670 tons *standard*, 6,350 tons *trial* (7,000 tons *full load*)
Dimensions:	Length: 535 (*o.a.*) feet Beam: 53½ feet Draught: 17½ feet
Guided missiles:	2 " Terrier " surface-to-air twin launchers, mounted fore and aft
Guns:	2—3 inch, 50 cal. AA. (twin) amidships
A/S weapons:	ASROC launcher
Machinery:	Geared turbines. 2 shafts. S.H.P.: 85,000=34 kts.
Boilers:	4
Complement:	400 (31 officers, 369 men)



LEAHY. Prototype of new class of guided missile frigates

1962, *United States Navy, Official*

General Notes

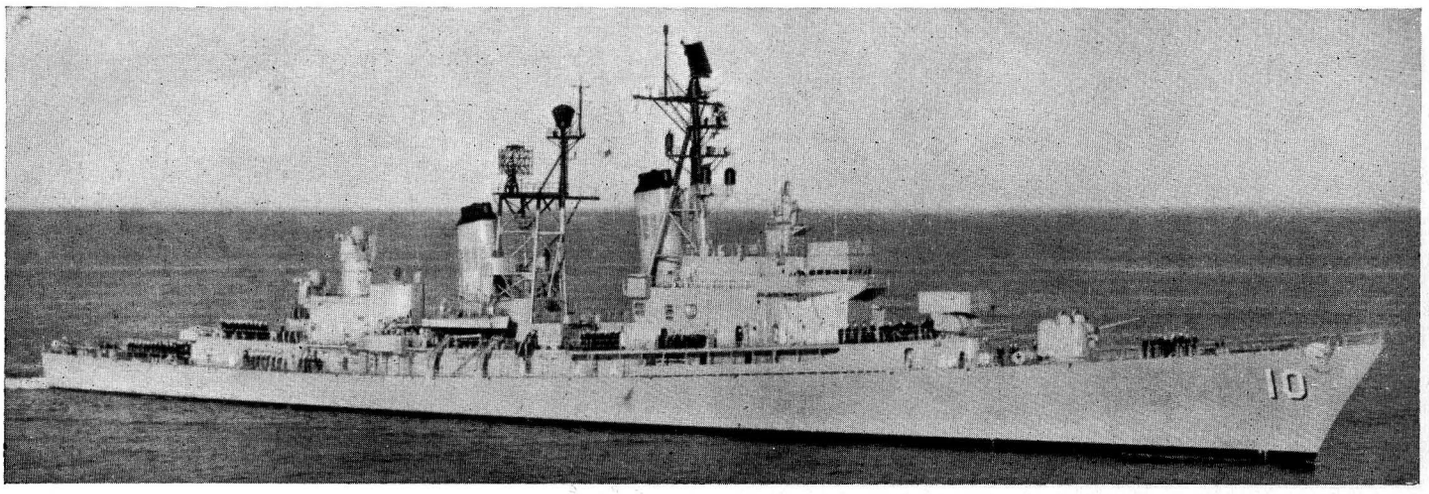
Very large guided missile destroyer leaders or frigates approaching the light cruiser category. The design is an improvement on that of the " Coontz " class. DLG 16, DLG 17 and DLG 18 were provided for under the Fiscal Year 1958 Program, and DLG 19, DLG 20, DLG 21, DLG 22, DLG 23 and DLG 24 under the Fiscal Year 1959 Program. The Fiscal Year 1958 ships are 900 tons heavier than the original " Coontz " class with " Terriers " fore and aft. DLG 23 and DLG 24 will be of a different class.

New Construction Notes

These nine new guided missile frigates are to be of a new class with *Leahy* as the prototype. They will be larger than the " Coontz " class and will mount " Terrier " launchers fore and aft, also conventional weapons, and will carry long range sonar and long and short range anti-submarine weapons. All nine ships of this class will be conventionally powered, but they will have " Macks " in place of masts and stacks.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completion*
DLG 16	*Leahy*	Bath Iron Works Corp., Maine	3 Dec. 1959	1 July 1961	Sep. 1962*
DLG 17	*Harry E. Yarnell*	Bath Iron Works Corp., Maine	31 May 1960	9 Dec. 1961	Jan. 1963*
DLG 18	*Worden*	Bath Iron Works, Corp., Maine	19 Sep. 1960	2 June 1962	July 1963*
DLG 19	*Dale*	New York S.B. Corp., Camden	6 Sep. 1960	28 July 1962	Oct. 1963*
DLG 20	*Richmond K. Turner*	New York S.B. Corp., Camden	9 Jan. 1961	27 Oct. 1962*	Feb. 1964*
DLG 21	*Gridley*	Puget Sound B. & D. Co., Seattle	15 July 1960	31 July 1961	Jan. 1963*
DLG 22	*England*	Todd Shipyards Corp., San Pedro	4 Oct. 1960	6 Mar. 1962	July 1963*
DLG 23	*Halsey*	San Francisco Naval Shipyard	25 Aug. 1960	15 Jan. 1962	July 1963*
DLG 24	*Reeves*	Puget Sound Naval Shipyard	1 July 1960	12 May 1962	Dec. 1963*

* Dates are official estimates



KING (showing ASROC forward in "B" position)

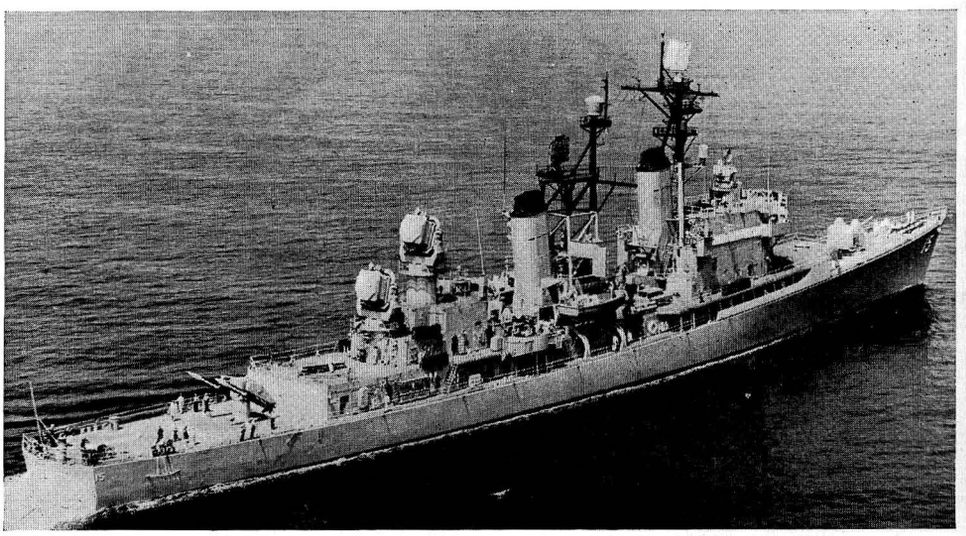
1961, *United States Navy, Official*

Guided Missile Frigates (DLG)—*contd.*

10 "Coontz" Class

COONTZ
DAHLGREN
DEWEY
FARRAGUT
KING
LUCE (ex-*Dewey*)
MACDONOUGH
MAHAN
PREBLE
WILLIAM V. PRATT

Displacement:	4,700 tons *standard*, (5,600 tons *full load*)
Dimensions:	Length: 512½ (*w.l.*), 520 (*o.a.*) feet Beam: 52⅓ feet. Draught: 20 feet
Guns:	1—5 inch, 54 cal. d.p. forward; 4—3 inch, 50 cal. in twin mounts amidships
Guided missiles:	One twin launcher aft. 40 advanced "Terrier" missiles ("Terrier III")
Tubes:	6—21 inch fixed torpedo launchers (two triple nests)
A/S weapons:	ASROC 8-tube "Pepperbox" launcher, 1 Mark III ASW rocket launchers, Hedgehog ASW torpedoes
Machinery:	2 Geared turbines. 2 shafts. S.H.P.: 80,000 or 85,000=34 kts. (see *Engineering Notes*)
Boilers:	4 (1,200 lbs. pressure)
Complement:	359 (24 officers, 335 men)



PREBLE (showing "Terriers" aft, in "Y" position)

1961, *United States Navy, Official*

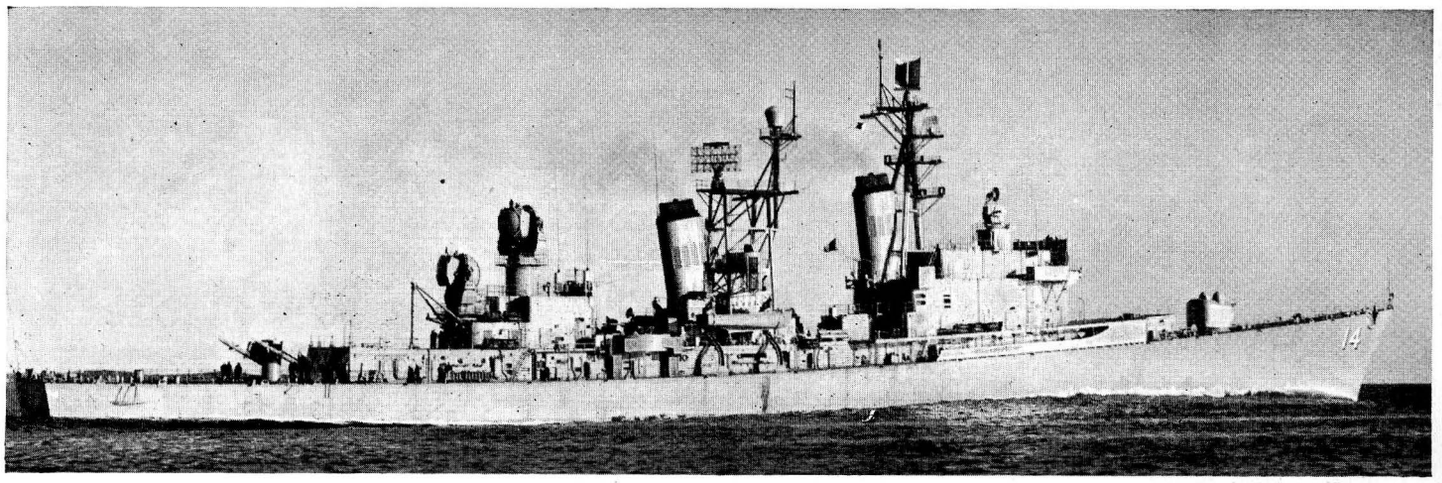
General Notes

Guided missile ships of the destroyer leader or large frigate category. Improved version of the original destroyer leaders (afterwards re-rated as frigates) of the "Mitscher" type. Designed to destroy air targets. These ships also have anti-submarine and airborne early warning capabilities. They will be used primarily as anti-aircraft and anti-submarine warfare ships. They will also screen high speed task forces, support amphibious operations and be capable of operating independently. The *light* displacement is officially stated to be 3,900 tons. *Dewey* was the first ship equipped with the *advanced* "Terrier" missile, which supersedes the original "Terrier" which has been in service in the Fleet since Jan. 1956. *Coontz, Farragut, King, Luce, Macdonough* and *Mahan* were provided for under the Fiscal 1956 program appropriations; *Dahlgren, William V. Pratt, Dewey* and *Preble* are provided for under the 1957 program appropriations. DLG 7, the ship which it was originally announced would be named *Dewey*, was renamed *Luce* in 1957. Cost $51,000,000 each. *King* and *Mahan* are fitted with NTDS (Navy Tactical Data System).

No.	*Name*	*Builders*	*Engineers*	*Laid down*	*Launched*	*Completed*
DLG 6	*Farragut*	Bethlehem, Quincy	De Laval	3 June 1957	18 July 1958	17 Feb. 1961
DLG 7	*Luce*	Bethlehem, Quincy	De Laval	1 Oct. 1957	11 Dec. 1958	15 July 1961
DLG 8	*Macdonough*	Bethlehem, Quincy	De Laval	15 Apr. 1958	9 July 1959	27 Oct. 1961
DLG 9	*Coontz*	Puget Sound Naval Shipyard	Allis Chalmers	2 Mar. 1957	6 Dec. 1958	15 July 1960
DLG 10	*King*	Puget Sound Naval Shipyard	Allis Chalmers	2 Mar. 1957	6 Dec. 1958	17 Nov. 1960
DLG 11	*Mahan*	San Francisco Naval Shipyard	Allis Chalmers	29 July 1957	7 Oct. 1959	28 Nov. 1960
DLG 12	*Dahlgren*	Philadelphia Naval Shipyard	Allis Chalmers	1 Mar. 1958	16 Mar. 1960	15 July 1961
DLG 13	*William V. Pratt*	Philadelphia Naval Shipyard	Allis Chalmers	1 Mar. 1958	16 Mar. 1960	19 Oct. 1961
DLG 14	*Dewey*	Bath Iron Works, Bath, Maine	De Laval	10 Aug. 1957	30 Nov. 1958	7 Dec. 1959
DLG 15	*Preble*	Bath Iron Works, Bath, Maine	De Laval	16 Dec. 1957	23 May 1959	9 May 1960

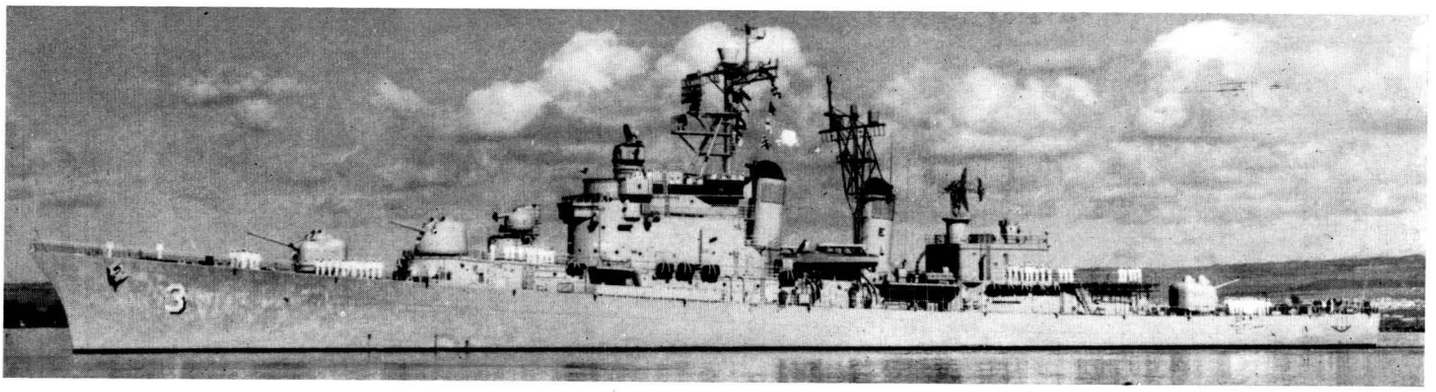
Engineering Notes

Coontz, King, Mahan, Dahlgren and *William V. Pratt* (also *Halsey* and *Reeves* of the Improved "Coontz" Class) have two sets of Allis-Chalmers-Fork geared turbines of high speed and light weight working at a pressure of 12,000 lbs. per sq. inch and a temperature of 970 degrees Fahrenheit with superheated steam and developing 85,000 shaft horse power. *Farragut, Luce, Macdonough, Dewey* and *Preble* have De Laval turbines of 80,000 S.H.P.



DEWEY

1960, *Bath Iron Works Corporation, Bath, Maine (Builders)*



JOHN S. McCAIN

1962, *courtesy Mr. W. H. Davis*

Destroyer Leaders
Officially rated as **Frigates** (DL)
4 " Mitscher " Class

MITSCHER (ex-*DD* 927)
JOHN S. McCAIN (ex-*DD* 928)
WILLIS A. LEE (ex-*DD* 929)
WILKINSON (ex-*DD* 930)

Displacement:	3,675 tons *standard* (4,730 tons *full load*)
Dimensions:	450 (*pp.*), 493 (*o.a.*) × 49 × 21 feet
Guns:	2—5 inch 54 cal. d.p. (single), 2—3 inch, 70 cal. AA. (twin) see *Helicopter Notes*
A/S weapons:	2 Mark 108 ASW rocket launchers, Weapons " Able," 4—21 inch fixed T.T., 1 D.C.T.
Machinery:	Geared steam turbines. 2 shafts. S.H.P.: 80,000 = 35 kts.
Boilers:	DL 2, DL 3: 4 Combustion Engineering, controlled circulation type, 1,225 lb. per sq. in. pressure 950 deg. F. superheat DL 4, DL 5; 4 Foster Wheeler, 2 drum type, 1,200 lb. per sq. in. pressure, 965 deg. F. superheat
Complement:	322 (peace), 440 (war)

General Notes

Begun as Destroyers (DD), but re-rated as Destroyer Leaders (DL) while building in 1951 and again re-rated as Frigates (DL) on 1 Jan. 1955. They were then the largest destroyers ever built in the United States and in the world, larger than some ships formerly rated as light cruisers in other countries. Of a new design specifically constructed as a long-range fleet type for both administrative and anti-submarine duties. All ordered on 3 Aug. 1948. Named after United States admirals of the Second World War. Carry the latest surface, underwater and anti-aircraft weapons. Equipped with newly developed electronic devices for hunter killer missions. Propelling machinery, of light weight, include many advanced engineering features not previously installed in fighting ships. Used as destroyer squadron flagships. All now fitted with bow-mounted sonar in new 70-ft. bow section.

Gunnery Notes

Two 5 inch guns are fully automatic loading, rapid fire, radar controlled. Newer longer range 3 inch, 70 cal. mountings were installed in 1957-58 in place of the former 3 inch 50 cal. guns. The after 3 inch. 70 cal. twin mounting and the four 20 mm. AA. (twin) guns have been removed for a helo platform (see *Helicopter Notes*).

Engineering Notes

DL 2, DL 3: 2 General Electric, turbine reduction type. Main reduction gears: General Electric double reduction: DL 4, DL 5: 2 Westinghouse, turbine reduction type. Main reduction gears: De Laval double reduction.

Masting Notes

Masts have been rerigged in all units with the crows' nest removed and replaced by " Tacan " dome.



MITSCHER (helicopter aft)

1960, *United States Navy, Official*

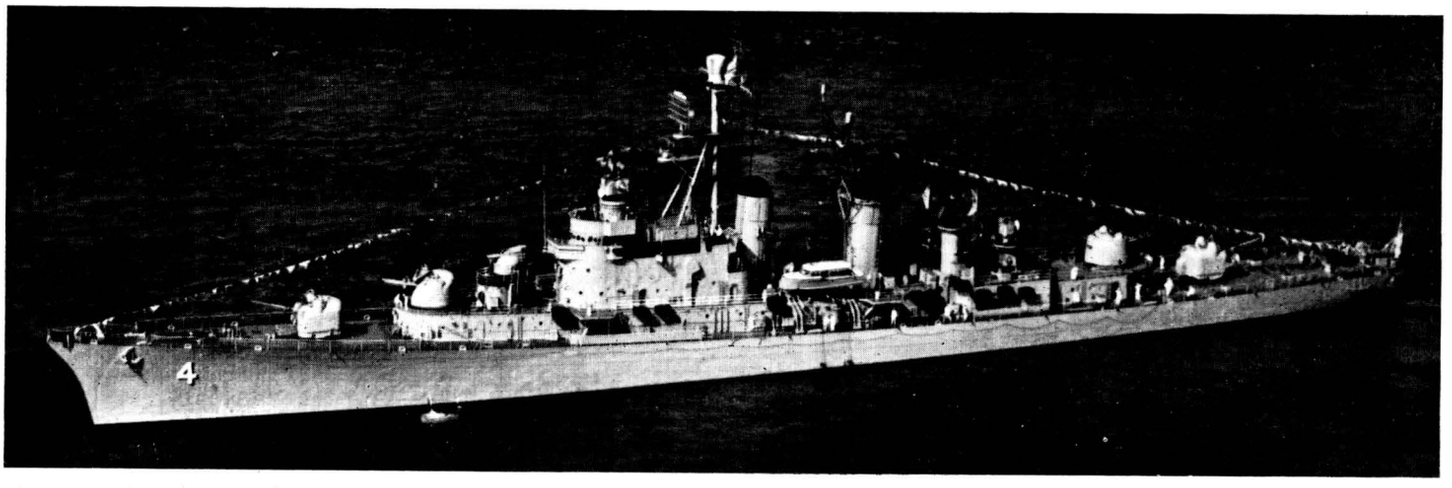
No.	*Name*	*Builders*	*Engineers*	*Laid down*	*Launched*	*Completed*
DL 2	*Mitscher*	Bath Iron Works Corpn.	General Electric	3 Oct. 1949	26 Jan. 1952	16 May 1953
DL 3	*John S. McCain*	Bath Iron Works Corpn.	General Electric	24 Oct. 1949	12 July 1952	12 Oct. 1953
DL 4	*Willis A. Lee*	Bethlehem, Quincy	Westinghouse	1 Nov. 1949	26 Jan. 1952	28 Sep. 1954
DL 5	*Wilkinson*	Bethlehem, Quincy	Westinghouse	1 Feb. 1950	23 Apr. 1952	29 July 1954

Helicopter Notes

Stern cleared for anti-submarine helicopter operations. *John S. McCain, Mitscher* and *Wilkinson* completed DASH installation in Apr. 1960, including removal of after 3 inch guns to make way for 50 × 30 ft. landing platform and hangar for 2 drone anti-submarine helicopters.

Photograph Notes

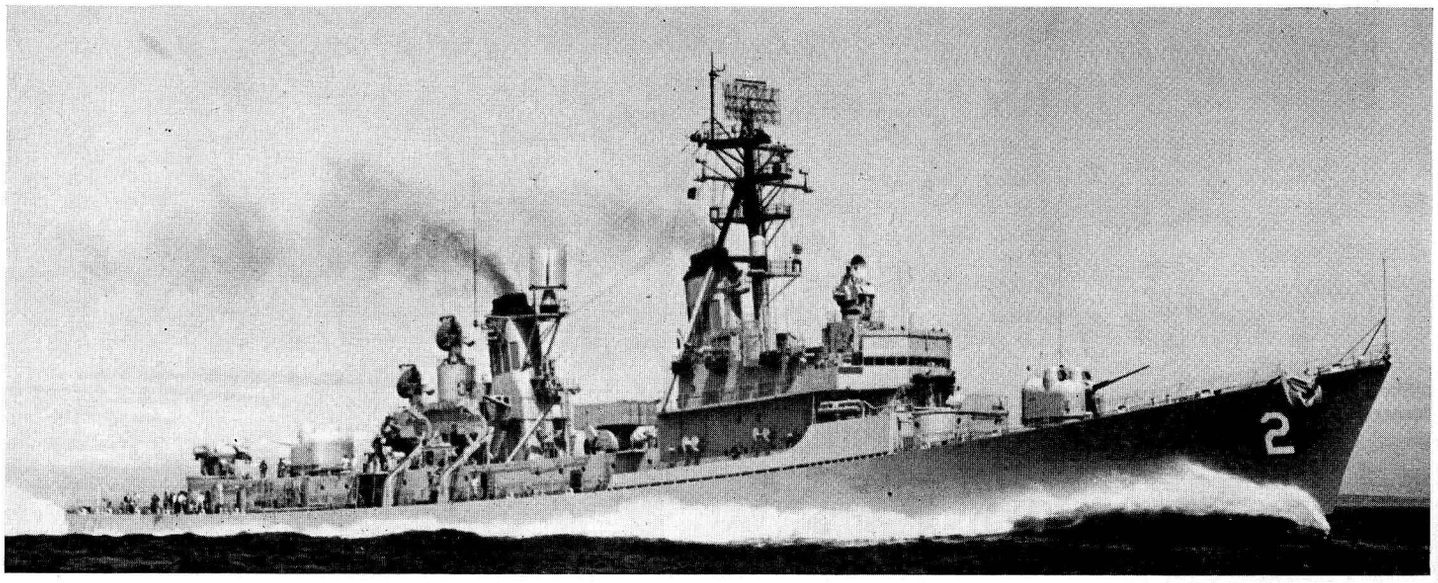
Port bow view of *Wilkinson* in the 1957-58 edition. Starboard quarter view of *Mitscher* in the 1957-58 to 1959-60 editions. Port bow oblique aerial view of *Wilkinson* in the 1959-60 edition. Large port oblique aerial view of *Willis A. Lee* in the 1959-60 to 1961-62 editions.



WILLIS A. LEE

1959, "*Our Navy*" *Photo*

GUIDED MISSILE ARMED DESTROYERS (DDG)



CHARLES F. ADAMS

1961, *United States Navy, Official*

23 " Charles F. Adams " Class

2 *Avondale Marine Ways, Inc., New Orleans, Louisiana*

DDG 18 SEMMES
DDG 19 TATNALL

4 *Bath Iron Works, Bath, Maine*

DDG 2 (ex-*DDG* 952) **CHARLES F. ADAMS**
DDG 3 (ex-*DDG* 953 **JOHN KING**
DDG 10 SAMPSON
DDG 11 SELLERS

4 *Defoe Shipbuilding Co., Bay City, Michigan*

DDG 7 (ex-*DDG* 957) **HENRY B. WILSON**
DDG 8 (ex-*DDG* 958) **LYNDE McCORMICK**
DDG 12 ROBISON
DDG 13 HOEL

6 *New York Shipbuilding Corpn., Camden, New Jersey*

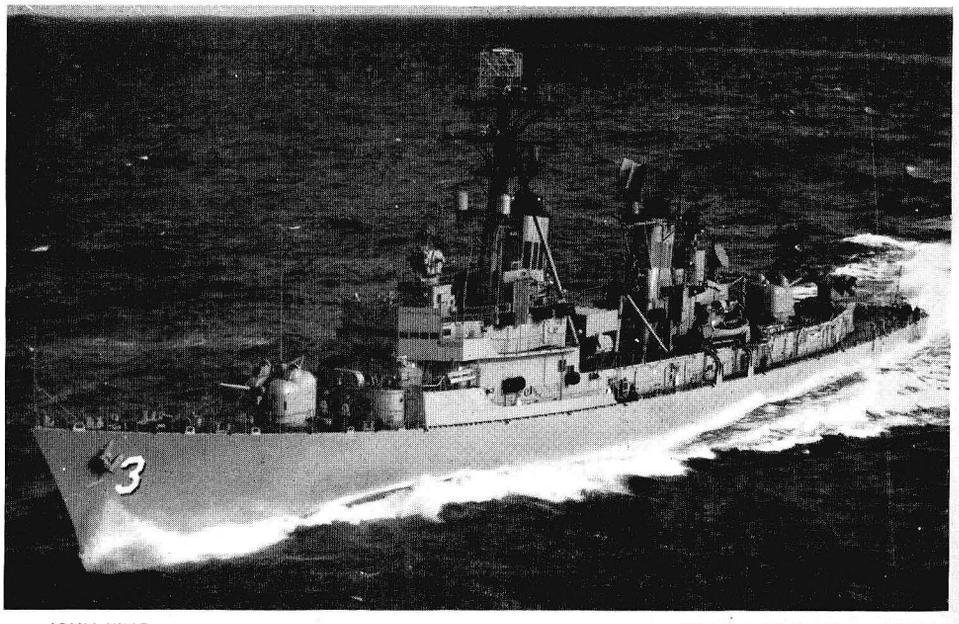
DDG 4 (ex-*DDG* 954 **LAWRENCE**
DDG 5 (ex-*DDG* 955) **BIDDLE**
DDG 6 (ex-*DDG* 956) **BARNEY**
DDG 15 BERKELEY
DDG 16 JOSEPH STRAUSS
DDG 17 CONYNGHAM

3 *Puget Sound Bridge and Dry Dock Co., Seattle, Wash.*

DDG 20 GOLDSBOROUGH
DDG 21 COCHRANE
DDG 22 BENJAMIN STODDERT

4 *Todd Shipyards, Inc., Seattle, Washington*

DDG 9 (ex-*DDG* 959) **TOWERS**
DDG 14 BUCHANAN
DDG 23 RICHARD E. BYRD
DDG 24 WADDELL



JOHN KING

1961, *United States Navy, Official*

Displacement:	3,370 tons *standard* (4,500 tons *full load*)
Dimensions:	431 (*w.l.*), 437 (*o.a.*) × 47 × 20 feet
Guns:	2—5 inch, 54 cal. single-mount, rapid fire
Guided weapons:	Twin " Tartar "surface-to-air missile launcher
A/S weapons:	Rocket launchers (ASROC), 2 triple tube torpedo launchers, 1 D.C.T.
Machinery:	Geared steam turbines. 2 shafts. S.H.P.: 70,000=35 kts.
Boilers:	4
Complement:	354 (24 officers, 330 men)

General Notes

Eight guided missile destroyers, DDG 2—9, were provided under the Fiscal 1957 Appropriations, five (DDG 10-14) in 1958, five (DDG 15-19) in 1959, three (DDG 20-22) in 1960, and two (DDG 23, 24) are to be built under the 1961 program.

The eight ships in the 1957 procurement and the five in the 1958 procurement are equipped to launch the " Tartar" surface-to-air missile with a range of 15 to 20 miles. They are also armed with two main single-mount rapid-fire guns and the latest anti-submarine weapons.

In addition to the " Tartar " missiles, these ships are equipped with the very latest in long range anti-submarine warfare weapons. These versatile ships will be used to escort amphibious forces and to support them after their landings, to work with hunter killer groups in attacking submarines and to protect vital ocean convoys.

As compared with previous destroyers, the ships have greater length overall, more beam and heavier displacement. They have a new hull design which is an evolution of the " *Forrest Sherman* " (DD 931) type and, like the " *Forrest Sherman* " class, have aluminium superstructures. The most recent habitability improvements have been incorporated into their construction, including air conditioning of all living spaces.

DDG 20, 21 and 22 have bow mounted long range sonar.

Cost: about $17,000,000 to $18,000,000 each (with missiles and electronics $34,000,000 each).

No.	Name	Laid down	Launched	Completed
DDG 2	*Charles F. Adams*	16 June 1958	8 Sep. 1959	10 Sep. 1960
DDG 3	*John King*	25 Aug. 1958	30 Jan. 1960	21 Mar. 1961
DDG 4	*Lawrence*	27 Oct. 1958	27 Feb. 1960	20 Dec. 1961
DDG 5	*Biddle*	18 May 1959	4 June 1960	18 June 1962
DDG 6	*Barney*	10 Aug. 1959	10 Dec. 1960	July 1962*
DDG 7	*Henry B. Wilson*	28 Feb. 1958	22 Apr. 1959	24 Feb. 1961
DDG 8	*Lynde McCormick*	4 Apr. 1958	28 July 1959	31 July 1961
DDG 9	*Towers*	1 Apr. 1958	23 Apr. 1959	20 July 1961
DDG 10	*Sampson*	2 Mar. 1959	21 May 1960	15 Aug. 1961
DDG 11	*Sellers*	3 Aug. 1959	9 Sep. 1960	20 Oct. 1961
DDG 12	*Robison*	28 Apr. 1959	27 Apr. 1960	29 Nov. 1961
DDG 13	*Hoel*	3 Aug. 1959	4 Aug. 1960	8 June 1962*
DDG 14	*Buchanan*	23 Apr. 1959	11 May 1960	23 Mar. 1962
DDG 15	*Berkeley*	29 Aug. 1960	29 July 1961	Oct. 1962*
DDG 16	*Joseph Strauss*	27 Dec. 1960	9 Dec. 1961	Feb. 1963*
DDG 17	*Conyngham*	5 Jan. 1961	19 May 1962	June 1963*
DDG 18	*Semmes*	18 Aug. 1960	20 May 1961	Nov. 1962*
DDG 19	*Tattnall*	14 Nov. 1960	26 Aug. 1961	Mar. 1963*
DDG 20	*Goldsborough*	3 Jan. 1961	12 Dec. 1961	30 July 1963*†
DDG 21	*Cochrane*	31 July 1961	18 July 1962	30 Nov. 1963*†
DDG 22	*Benjamin Stoddert*	11 June 1962	13 Feb. 1963*	30 Mar. 1964*†
DDG 23	*Richard E. Byrd*	12 Apr. 1961	6 Feb. 1962*	27 Feb. 1964*†
DDG 24	*Waddell*	6 Feb. 1962	1 Dec. 1962*	29 June 1964*†

* Dates are official estimates.

† Estimated commissioning dates.

Gunnery Notes

The original design provided for two 5 inch guns, one forward in " A " position and one aft in " Y " position (anti submarine weapons in " B " positions and guided weapons in " X " position) but it is reported that the after (" Y ") 5 inch gun may be suppressed in favour of a guided missile launcher.

Class Notes

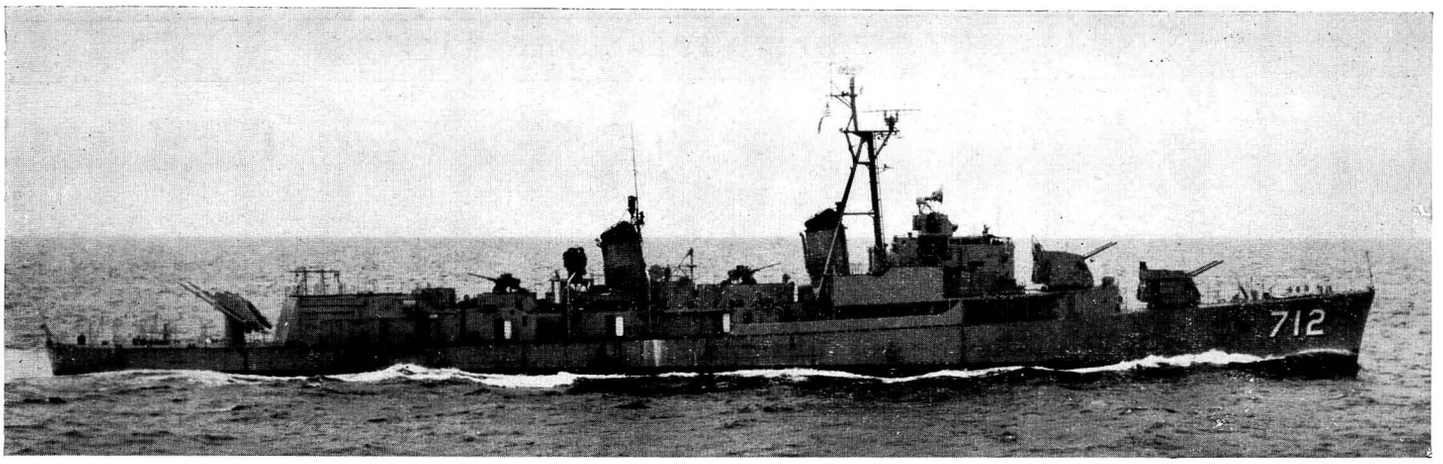
DDG 25 and DDG 26 are to be built by Defoe Shipbuilding Co., Bay City, Michigin, for the Royal Australian Navy.

Guided Missile Notes

" Tartar " weapons are smaller than " Terrier " missiles with greater range. In these ships they are mounted in a battery aft. 42 missiles are carried. Missiles are 15 feet long and 1 foot in diameter.

Engineering Notes

DDG 2, 3, 7 and 8 are equipped with General Electric main propulsion units (steam turbines) and electric power-generating equipment.



GYATT

1957, *courtesy "Our Navy"*

Guided Missile Armed Destroyers
—continued

1 Converted "Gearing" Class
Ex-Destroyer (DD)

DDG 1 GYATT (ex-*DDG* 712, ex-*DD* 712)

Builders:	Federal Shipbuilding & Dry Dock Co.
Launched:	15 Apr. 1945
Completed:	2 July 1945
Converted:	30 Dec. 1956
Displacement:	2,400 tons *standard* (3,480 tons *full load*)
Dimensions:	390½ × 40⅝ × 19 (*max.*) feet.
Guns:	4—5 inch, 38 cal. (two twin turrets forward) 4—3 inch, 50 cal. (two twin mountings, one abaft each funnel)
Guided weapons:	2 launchers (twin mounting aft) for "Terrier" missiles
A/S weapons:	2 Hedgehogs and 2 torpedo racks
Machinery:	Geared turbines. 2 shafts. S.H.P 60,000=35 kts.
Boilers:	4
Oil fuel:	680 tons
Radius:	6,000 miles at 15 kts.
Complement:	296 (16 officers and 280 men)

General Notes

Originally a normal fleet destroyer (DD) of the "Gearing" class. Her conversion to a guided missile destroyer (DDG) was provided for under the Fiscal 1956 Appropriations. Reclassified as DDG 1 on 1 Dec. 1955. Converted at the Boston Naval Shipyard, Massachusetts; and fitted with the complete "Terrier" missile installation, to test the feasibility of converting existing destroyers to guided missile destroyers. Commissioned 3 Dec. 1956. Again reclassified as DDG 712 on completion. Reclassified as DDG 1 on 23 May 1957.

Guided Missile Notes

The 14 "Terrier" missiles are carried in twin magazines level with the main deck. The twin missile launcher rotates to all points.

Gyatt is the world's first guided missile destroyer, and also the U.S. Navy's first warship to have a stabilisation system (British Denny-Brown retractable fin stabilisers) added to her hull structure: the system is designed to eliminate much of the rolling that is characteristic of small ships: It consists of two 45 sq.ft. retractable fins extending out from midships well below the waterline.

Gyatt is the Navy's economical approach to a guided missile destroyer by conversion rather than by new construction The *Gyatt*, in addition to twin "Terrier" guided missile launchers, has the most modern anti-submarine ordnance, and is capable of destroying an enemy attack whether by supersonic aircraft or modern submarine. The ship was the third U.S. Navy warship to carry the guided missile designation (the first two were the *Boston* and *Canberra*, both heavy cruisers).

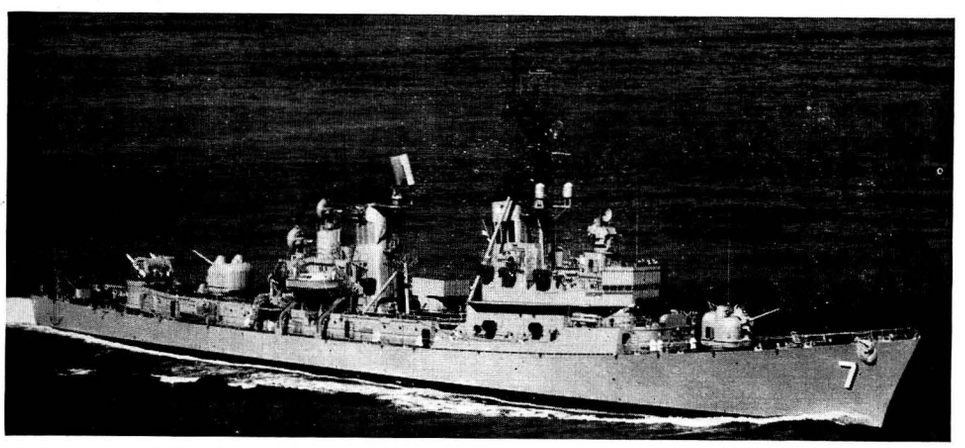
Photograph Notes

Starboard quarter and port bow views of *Gyatt* in the 1957-58 edition. Starboard quarter view in the 1959-60 edition.



GYATT (showing "Terrier" missiles aft)

1961 *United States Navy, Official*



HENRY B. WILSON (see previous page)

1961, *United States Navy, Official*

Nuclear Powered Destroyer (DDN)
Design Project

DDN

Displacement:	3,500 tons *standard*
Dimensions:	Length: 490 feet Beam: 50 feet Draught: 21 feet
Machinery:	2 pressurised water cooled nuclear reactors. Geared turbines. 2 shafts. S.H.P.: "over 60,000"="over 30" kts.

Notes

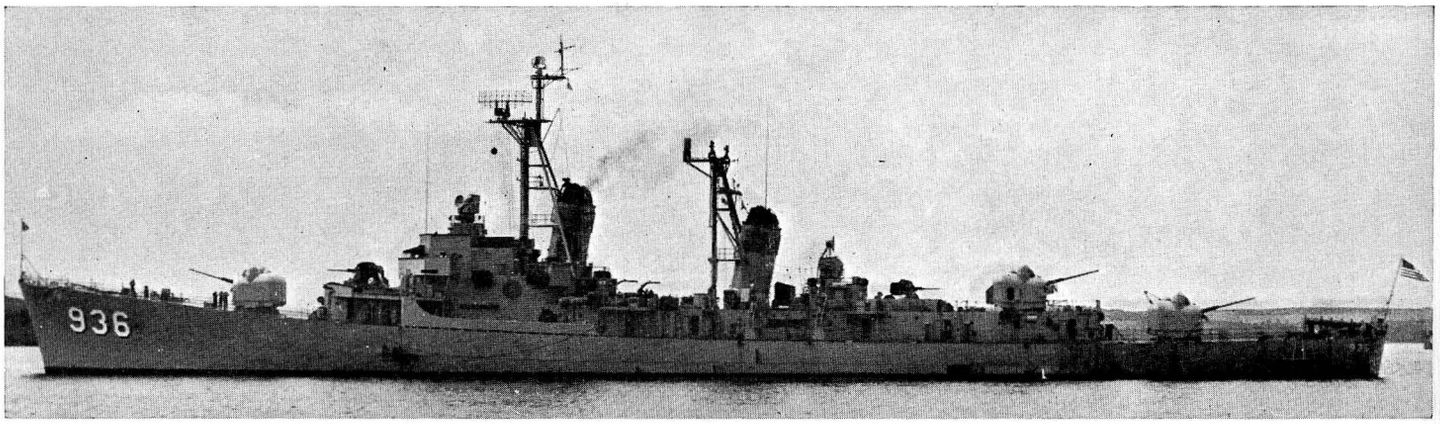
The Bethlehem Steel Company, Quincy, Massachusetts, was awarded a contract for the design of a nuclear powered destroyer in Dec. 1957. If this vessel materialises she will be the smallest surface fighting ship in the world in which a nuclear powered engineering plant has been installed, but construction is not planned in the near future due to economy reasons. See illustration in the 1959-60 and 1960-61 editions. The project as an immediate prospect, appears to have been abandoned. There are no plans ar present for actually building a DDN, it is officially stated.



DU PONT (see next page)

1961, *A. & J. Pavia*

DESTROYERS (DD)



DECATUR

Added 1959, courtesy Dr. Ian S. Pearsall

18 "Forrest Sherman" Class

9 Bath Iron Works Corpn. — *5 Bethlehem Steel Co., Quincy,*

DD		DD	
931	FORREST SHERMAN	936	DECATUR
932	JOHN PAUL JONES	937	DAVIS
933	BARRY	938	JONAS INGRAM
940	MANLEY	943	BLANDY
941	DU PONT	944	MULLINNIX
942	BIGELOW		
945	HULL		
946	EDSON		
947	SOMERS		

2 Ingalls S.B. Corpn. — *2 Puget Sound B. & D. Co.,*

948	MORTON	950	RICHARD S. EDWARDS
949	PARSONS	951	TURNER JOY

Displacement:	2,650 tons *light*, 2,850 tons *standard* (4,200 tons *full load*), see *Notes*
Dimensions:	418½ × 45 × 19½ feet
Guns:	3—5 inch 54 cal. d.p. (1 forward, 2 aft), 4—3 inch, 50 cal. AA. (new pattern twin enclosed gunhouses), see *Notes*)
Tubes:	4—21 inch A/S fixed (torpedo racks), see *Notes*
A/S weapons:	2 Hedgehogs, depth charge tracks (*Somers:* 2 barrelled ASW)
Machinery:	2 geared steam turbines. 2 shafts. S.H.P.: 70,000≐over 33 kts.
Boilers:	4
Completion:	255 (15 officers, 240 men)

General Notes
The construction of first three was provided for under the 1952-53 programme. Not radical in design but embody certain improvements in armament. Increased freeboard forward. Entire ship's structure above main deck including gun foundations is of aluminium to obtain maximum stability while maintaining minimum ship displacement. Air conditioned throughout. DD 938 ordered 3 Feb. 1954, DD 941 and DD 942 30 July 1954, DD 943 and DD 944 awarded 23 Oct. 1954. (DD 939 was ex-German Z 39).

Gunnery Notes
These ships are the first United States warships with gun batteries arranged to provide more fire power aft than forward.

Torpedo Notes
Tubes are replaced by torpedo racks between the funnels.

Sonar Notes
Barry has been fitted with a new clipper bow housing a new type of sonar dome, at Boston Naval Shipyard in 1959, and has stem anchor only.

Anti-Radiation Notes
Richard. S. Edwards was built from the keel up with atomic decontamination gear (other ships have had such gear added afterwards).

Displacement Notes
The displacement varies between 2,780 tons and 2,850 tons because of machinery differences.

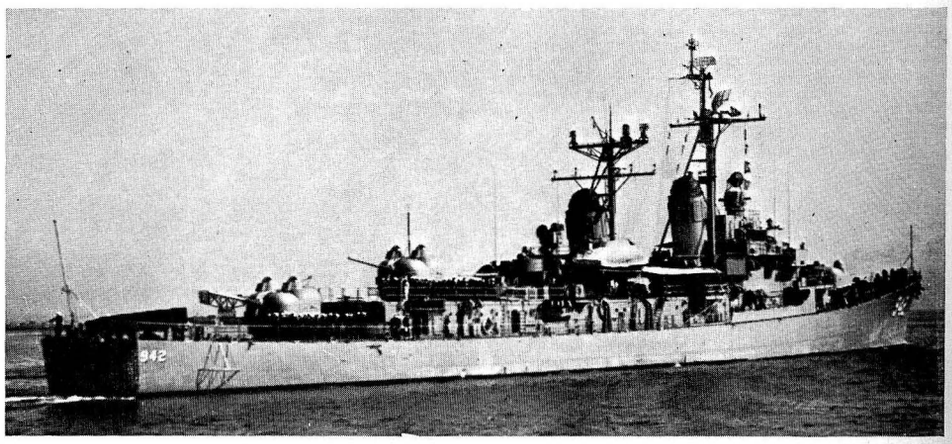
Building Notes
Most of the completed dates in the table are actually commissioning dates which are a month or two before the official completion dates.

Name	*Laid down*	*Launched*	*Completed*
Forrest Sherman	27 Oct. 1953	5 Feb. 1955	9 Nov. 1955
John Paul Jones	18 Jan. 1954	7 May 1955	5 Apr. 1956
Barry	15 Mar. 1954	1 Oct. 1955	31 Aug. 1957
Decatur	13 Sep. 1954	15 Dec. 1955	30 Nov. 1956
Davis	1 Feb. 1955	28 Mar. 1956	6 Mar. 1957
Manley	10 Feb. 1955	12 Apr. 1956	1 Feb. 1957
Jonas Ingram	15 June 1955	8 July 1956	19 July 1957
Du Pont	11 May 1955	8 Sep. 1956	1 July 1957
Blandy	29 Dec. 1955	19 Dec. 1956	26 Nov. 1957
Bigelow	6 July 1955	2 Feb. 1957	8 Nov. 1957
Mullinnix	5 Apr. 1956	18 Mar. 1957	7 Mar. 1958
Hull	12 Sep. 1956	10 Aug. 1957	2 June 1958
Edson	3 Dec. 1956	1 Jan. 1958	7 Nov. 1958
Richard S. Edwards	20 Dec. 1956	24 Sep. 1957	5 Feb. 1959
Morton	4 Mar. 1957	23 May 1958	16 Mar. 1959
Somers	4 Mar. 1957	30 May 1958	3 Apr. 1959
Parsons	17 June 1957	19 Aug. 1958	29 Oct. 1959
Turner Joy	30 Sep. 1957	5 May 1958	3 Aug. 1959



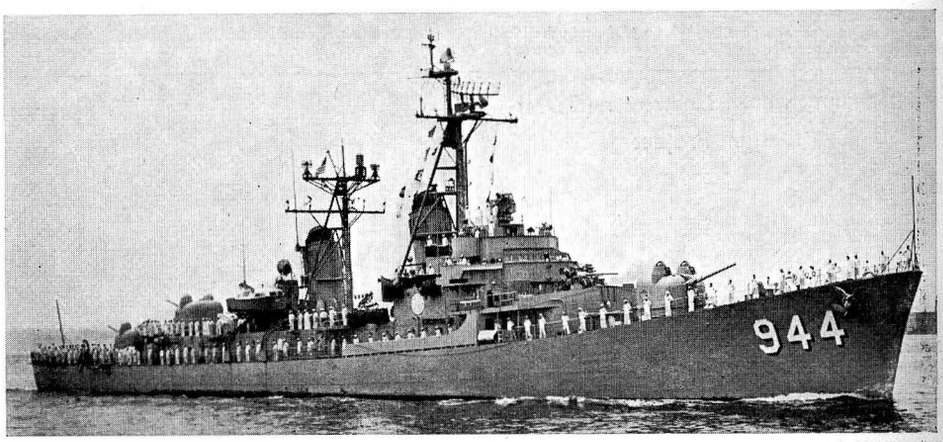
BARRY (clipper bow, stem anchor)

1960, *Erich Gröner*



BIGELOW

1959, *R. M. Scott*

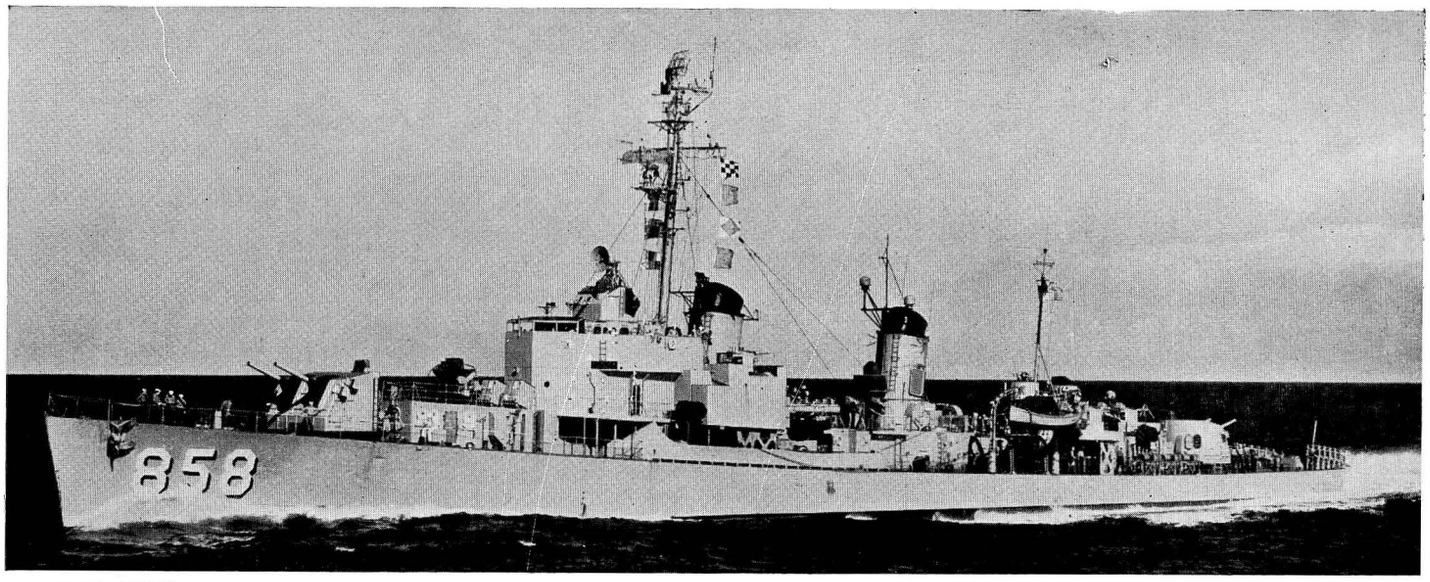


MULLINNIX

1959, *Ted Stone*

Nomenclature Note
The name of DD 951 was changed from *Joy* to *Turner Joy* on 26 July 1957.

Photograph Notes
Photographs of *Forrest Sherman* and *John Paul Jones* appear in the 1957-58 to 1959-60 editions.



FRED T. BERRY

1957, *Skyfotos*

Anti-Submarine Destroyers (DDE)
8 "Carpenter" Class

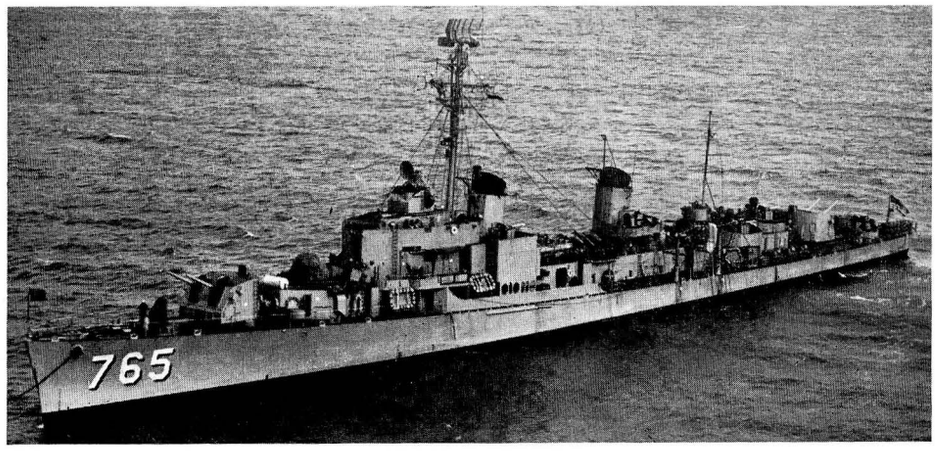
1 *Bath Iron Works Corpn.*
DDE
827 ROBERT A. OWENS (15 July 1946)
2 *Bethlehem, S. Francisco*
765 KEPPLER (24 June 1946)
764 LLOYD THOMAS (5 Oct. 1945)
1 *Consolidated Steel Corpn. (Completed by Newport News)*
825 CARPENTER (30 Dec. 1945)

4 *Bethlehem, S. Pedro*
858 FRED T. BERRY (28 Jan. 1945)
861 HARWOOD (24 May 1945)
860 McCAFFERY (12 Apr. 1945)
859 NORRIS (25 Feb. 1945)

Displacement:	*Carpenter* and *Robert A. Owens*: 2,500 tons *standard* (3,550 tons *full load*) Remaining six: 2,425 tons *standard* (3,500 tons *full load*)
Dimensions:	390½ (*o.a.*) × 40⅞ × 19 (max.) feet
Guns:	4—3 inch, 70 cal. (twin-automatic), 2
A/S weapons:	large ahead throwing A/S weapons; in *Carpenter* and *Robert A. Owens*, 4—5 inch, 8—3 inch, 1 large A/S weapon in others.
Tubes:	5—21 inch (none in *Carpenter* and *Robert A. Owens*)
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4
Oil fuel:	650 tons
Radius:	5,800 miles at 15 kts.
Complement:	350

General Notes

Originally designed as units of the "Gearing" class. *Robert A. Owens* and *Carpenter*, towed to Newport News in 1947, were completed as Hunter-killer Destroyers on Nov. 5, 1949, and Dec. 15, 1949, respectively. The remaining six were converted under the 1949 Program. Launch dates above. They were rated as DDKs until March 4, 1950, when the DDE and DDK types merged. *Robert A. Owens* had six 3-inch guns. In *Carpenter* the forward 5-inch twin turret was removed, a pair of twin 3-inch automatic weapons substituted, and a bandstand containing a large weapon of the hedgehog type in place of the superimposed 5-inch turret.



KEPPLER

Added 1959, *Skyfotos*

Conversion Notes

Fred T. Berry, *Keppler*, *Lloyd Thomas*, *McCaffery* and *Norris* have undergone or are undergoing FRAM II conversion.

Anti-Submarine Notes

It is understood that additional multiple A/S mortars have been installed amidships and aft, and a number of Sono-buoys are included in the equipment. These are dropped in a diamond shaped pattern (one in the middle) outlining an area in which a submarine is suspected to be in operation. They contain microphones, and by keeping track of which picks up the loudest sound the destroyer can determine in which direction and at what speed and depth the submarine is moving. Once this is detected the destroyer moves in rapidly for the kill, laying down a pattern of depth bombs.

Gunnery Notes

Carpenter was the first ship in the Pacific Fleet to have the new 3 inch, 70 cal. automatic gun mountings. Her hedgehog forward is now removed.

Photograph Notes

Photographs of *Lloyd Thomas* in the 1953-54 to 1957-58 editions, and of *Carpenter* in the 1957-58 to 1959-60 editions.

General Note on DDEs (former DDKs)

Vessels have been completed as such and converted from existing DDs in order to form groups for the purpose of long- and short-range interception of submarines before they can attack convoys.

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7 Converted "Gearing" Class

1 *Bath Iron Works Corpn.*
DDE
847 ROBERT L. WILSON

4 *Consolidated Steel Corpn.*
DDE
824 BASILONE
819 HOLDER
818 NEW
820 RICH

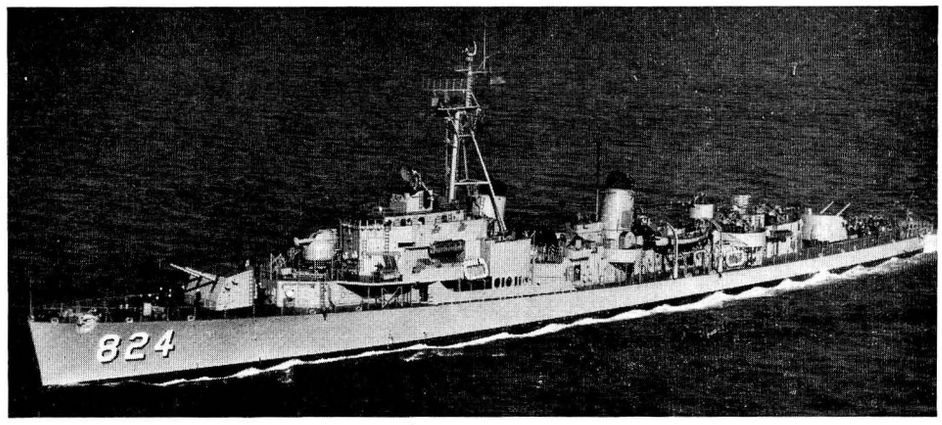
1 *Bethlehem, Staten Island*
871 DAMATO

1 *Federal S.B. & D.D. Co.*
719 EPPERSON

Displacement:	2,425 tons *standard* (3,500 tons *full load*)
Dimensions:	390½ (*o.a.*) × 40⅞ × 19 (*max.*) feet
Guns:	4—5 inch, 38 cal., 4 to 10—3 inch, 50 cal. (*Basilone* 4—3 inch, others 6—3 inch)
A/S weapons:	Ahead throwing A/S weapon in place of forward superimposed 5-inch twin turret
Tubes:	Removed in *Basilone* and *Epperson*. Others 5—21 inch
Machinery:	Geared turbines. 2 shafts. S.H.P: 60,000=35 kts.
Boilers:	4
Oil fuel:	650 tons
Radius:	5,800 miles at 15 kts.
Complement:	350 (war)

General Notes

Former destroyers (DD). Builders above. *Basilone* and *Epperson*, both completed at Bath, were two long suspended units of the "Gearing" class. They were converted to ASW (for anti-submarine warfare) and completed as escort destroyers. They are armed with new weapons and equipped with improved sonar and other electronic gear. Five other units were 4-gun "Gearings" redesignated DDEs on 4 March 1950. The remaining 4-gun "Gearing" (*Sarsfield*) is an EDD (experimental destroyer), see page 338.



BASILONE

Added 1959, *Skyfotos*

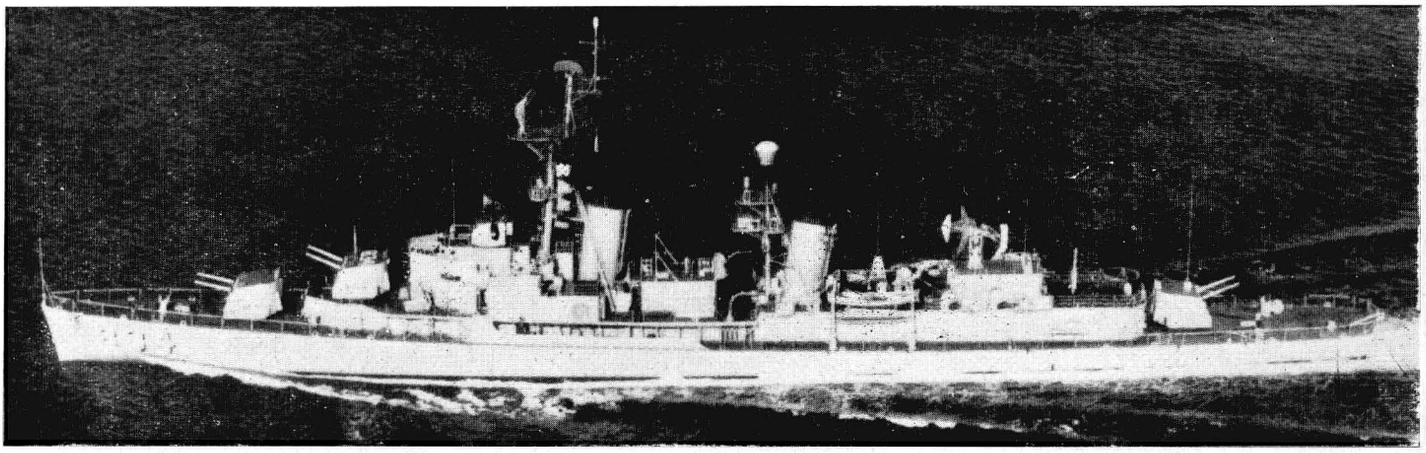
Name	*Launched*	*Completed*
Basilone	21 Dec. 1945	21 July 1949
Damato	21 Nov. 1945	26 Apr. 1946
Epperson	22 Dec. 1945	18 Mar. 1949
Holder	25 Aug. 1945	17 May 1946
New	18 Aug. 1945	4 Apr. 1946
Rich	5 Oct. 1945	2 July 1946
Robert L. Wilson	5 Jan. 1946	28 Mar. 1946

Photograph Notes

Photographs of *Holder* in the 1953-54 to 1957-58 editions, of *Epperson* in the 1954-55 to 1959-60 editions, and of *Damato* in the 1957-58 to 1959-60 editions.

Recent Disposal

The experimental destroyer *Timmerman*, AG 152 (ex-EDD 828) of the modified "Gearing" type, was stricken from the Navy List in 1958 and scrapped in 1959.



TURNER (after FRAM conversion, equipped with DASH) 1962, *courtesy Mr. W. H. Davis*

Radar Picket Destroyers (DDR)
36 Converted "Gearing" Class

15 *Bath Iron Works Corpn.*

DDR
807 BENNER
835 CHARLES P. CECIL
805 CHEVALIER
808 DENNIS J. BUCKLEY
838 ERNEST G. SMALL
830 EVERETT F. LARSON
842 FISKE
742 FRANK KNOX
831 GOODRICH
832 HANSON
833 HERBERT J. THOMAS
806 HIGBEE
829 MYLES C. FOX
743 SOUTHERLAND
834 TURNER

2 *Bethlehem, Staten Island*

870 FECHTELER
863 STEINAKER

14 *Consolidated Steel Corpn.*

881 BORDELON
817 CORRY
874 DUNCAN
880 DYESS
882 FURSE
873 HAWKINS
875 HENRY W. TUCKER
879 LEARY
883 NEWMAN K. PERRY
889 O'HARE
877 PERKINS (DD)*
876 ROGERS
888 STICKELL
878 VESOLE

4 *Federal S. B. & D.D. Co.*

711 EUGENE A. GREENE
713 KENNETH D. BAILEY
715 WILLIAM M. WOOD
714 WILLIAM R. RUSH

1 *Todd Pacific Shipyards*

784 McKEAN

Displacement:	2,425 tons *standard* (3,550 tons *full load*)
Dimensions:	390½ (*o.a.*) × 40⅞ × 19 (*max.*) feet.
Guns:	6—5 inch, 38 cal.; 6—3 inch, 50 cal. AA. in place of 12—40 mm. AA. (see *Gunnery Notes*)
A/S weapons:	2 Hedgehogs, 1 Depth Charge Rack, 2 side-launching torpedo racks
Machinery:	Geared turbines, 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4
Oil fuel:	650 tons
Radius:	5,800 miles at 15 kts.
Complement:	305 (peace), 350 (war)

General Notes

Builders see above. Originally of "Gearing" class. Main differences are that the torpedo tubes are removed, tripod radar mainmast tower removed and radar located aft of No. 2 stack on the after superstructure in all ships (see photos.)

**Perkins* was reclassified as DD on 30 Sep. 1962.

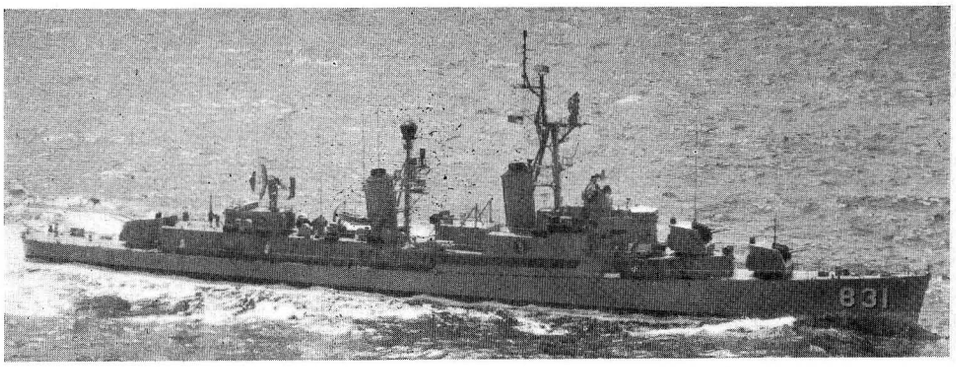
Conversion Notes

All converted from DDs to DDRs and fitted with early warning radar to serve as long-range-warning picket vessels against aircraft. *Duncan, Ernest G. Small, Frank Knox, Goodrich, Kenneth D. Bailey* and *Turner* have undergone FRAM conversions and are equipped with DASH, and variable depth sonar.

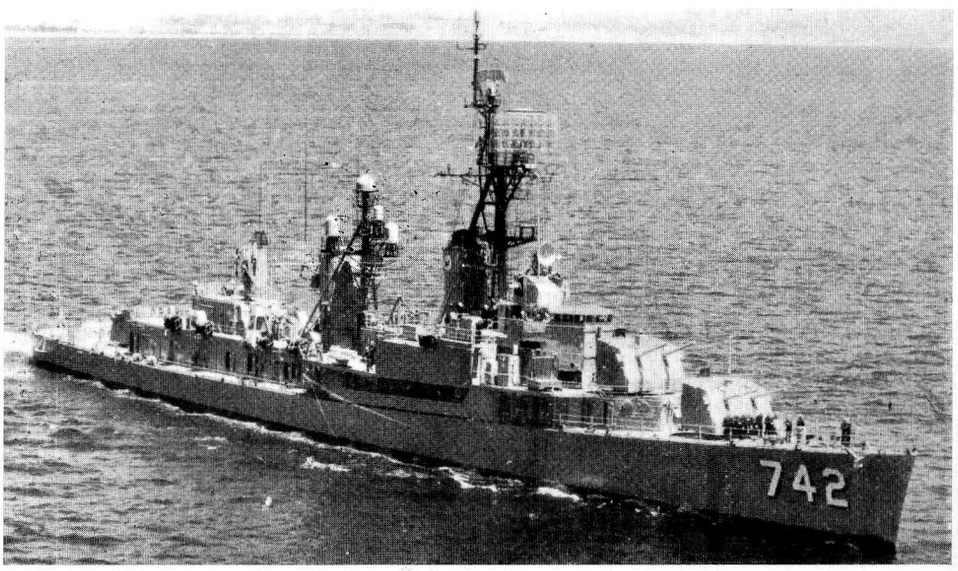
Gunnery Notes

Twin mounted 3-inch guns have replaced 40 mm. and 20 mm. guns in *Bordelon, Chevalier, Corry, Dyess, Herbert J. Thomas, Southerland,* and most of the other ships. Some are being modified with an enlarged combat information centre and have had the two twin 3 inch mounts amidships removed.

Name	*Launched*	*Completed*
Benner	20 Nov. 1944	13 Feb. 1945
Bordelon	3 Mar. 1945	5 June 1945
Charles P. Cecil	22 Apr. 1945	29 June 1945
Chevalier	29 Oct. 1944	9 Jan. 1945
Corry	28 July 1945	26 Feb. 1946
Dennis J. Buckley	20 Dec. 1944	2 Mar. 1945
Duncan	27 Oct. 1944	25 Feb. 1945
Dyess	26 Jan. 1945	21 May 1945
Ernest G. Small	9 June 1945	21 Aug. 1945
Eugene A. Greene	18 Mar. 1945	8 June 1945
Everett F. Larson	28 Jan. 1945	6 Apr. 1945
Fechteler	19 Sep. 1945	2 Mar. 1946
Fiske	8 Sep. 1945	28 Nov. 1945
Frank Knox	17 Sep. 1944	11 Dec. 1944
Furse	9 Mar. 1945	10 July 1945
Goodrich	25 Feb. 1945	24 Apr. 1945
Hanson	11 Mar. 1945	11 May 1945
Hawkins	7 Oct. 1944	10 Feb. 1945
Henry W. Tucker	8 Nov. 1944	12 Mar. 1945
Herbert J. Thomas	25 Mar. 1945	29 May 1945
Higbee	12 Nov. 1944	27 Jan. 1945
Kenneth D. Bailey	17 June 1945	31 July 1945
Leary	20 Jan. 1945	7 May 1945
McKean	31 Mar. 1945	9 June 1945
Myles C. Fox	13 Jan. 1945	20 Mar. 1945
Newman K. Perry	17 Mar. 1945	26 July 1945
O'Hare	22 June 1945	29 Nov. 1945
Perkins	7 Dec. 1944	5 Apr. 1945
Rogers	20 Nov. 1944	26 Mar. 1945
Southerland	5 Oct. 1944	22 Dec. 1944
Steinaker	13 Feb. 1945	26 May 1945
Stickell	16 June 1945	26 Sep. 1945
Turner	8 Apr. 1945	12 June 1945
Vesole	29 Dec. 1944	23 Apr. 1945
William M. Wood	29 July 1945	23 Nov. 1945
William R. Rush	8 July 1945	21 Sep. 1945



GOODRICH (after FRAM conversion) 1962, *United States Navy, Official*



FRANK KNOX (FRAM) 1962, *courtesy Mr. W. H. Davis*



FISKE 1960 *A. & J. Pavia*

A/S Weapon Notes

All K-guns have been removed and replaced by two side-launching torpedo racks.

Appearance Notes

All tripod radar mainmasts have been removed from these ships; and they now have a new type of mainmast for "TACAN" and ECM antennae on the fore side of the after funnel.

Direction Notes

Height finding radar and director for 3 inch anti-aircraft guns silhouetted broadside in *Bordelon* and close up in *Newman K. Perry* (see 1957-58 edition).

Photograph Notes

Photographs of *Vesole* in the 1957-58 edition, *Bordelon* and *William R. Rush* in the 1957-58 to 1961-62 editions, and *Newman K. Perry* in the 1960-61 and 1961-62 editions.



AGERHOLM (after FRAM conversion) 1961, *United States Navy, Official*

Destroyers (DD)

45 "Gearing" Class

12 *Bath Iron Works Corpn.*

DD
826 AGERHOLM
845 BAUSSELL
836 GEORGE K. MACKENZIE
840 GLENNON
841 NOA
846 OZBOURN
844 PERRY
839 POWER
E 849 RICHARD E. KRAUS (ex-*AG* 51)
E 837 SARSFIELD
843 WARRINGTON
E 848 WITEK

4 *Bethlehem, Quincy*

853 CHARLES H. ROAN
850 JOSEPH P. KENNEDY, JR.
852 LEONARD F. MASON
851 RUPERTUS

8 *Bethlehem, Staten Island*

869 ARNOLD J. ISBELL
868 BROWNSON
865 CHARLES R. WARE
866 CONE
872 FORREST ROYAL
864 HAROLD J. ELLISON
867 STRIBLING
862 VOGELGESANG

1 *Bethlehem, S. Francisco*

763 WILLIAM C. LAWE

8 *Consolidated Steel Corpn.*

887 BRINKLEY BASS
884 FLOYD B. PARKS
885 JOHN R. CRAIG
821 JOHNSTON
890 MEREDITH
886 ORLECK
822 ROBERT H. McCARD
823 SAMUEL B. ROBERTS

4 *Federal S.B. & D.D. Co.*

710 GEARING
718 HAMNER
717 THEODORE E. CHANDLER
716 WILTSIE

8 *Todd Pacific Shipyards*

789 EVERSOLE
783 GURKE (ex-*John A. Bole*)
785 HENDERSON
788 HOLLISTER
787 JAMES E. KYES
786 RICHARD B. ANDERSON
782 ROWAN
790 SHELTON

Displacement:	2,425 tons *standard*, *Witek* 2,465 tons (3,479 to 3,520 tons *full load*)
Dimensions:	390½ (*o.a.*) × 40⅜ × 19 (*max.*) feet
Guns:	4—5 inch, 38 cal. (two twin) (see *Gunnery Notes*)
A/S weapons:	2 hedgehogs, 1 depth charge rack, DASH, ASROC, 2 triple tube launchers
Tubes:	See *Torpedo Notes*
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000 = 35 kts.
Boilers:	4
Oil fuel:	650 tons
Radius:	5,800 miles at 15 kts.
Complement:	257 (peace), 350 (war)

General Notes

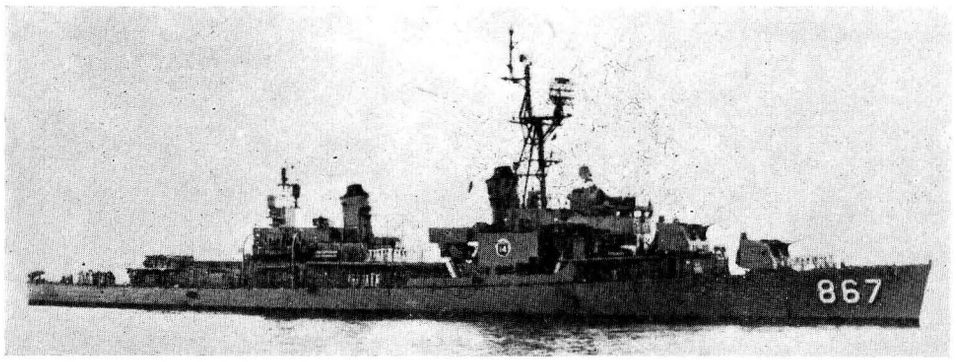
Enlarged versions of "Allen M. Summer" type, with extra 14 feet length, necessitated by additional installations. All having tripod mast fitted to accommodate new large radar aerials. A 165 tons, 120-feet long bow section of the uncompleted destroyer *Seymour D. Owens* was transferred to the *Ernest G. Small* to replace the latter's bow section which was lost when that ship struck a mine off Songjin, Korea, 7 Oct. 1951. Similarly, the bow of the uncompleted sister ship *Lansdale* a section weighing 50 tons was removed and welded on to *Floyd B. Parks* which was damaged in spring 1956 in collision with the heavy cruiser *Columbus*. 36 units converted to Radar Picket Destroyers (DDR), 8 to Hunter Killer Destroyers (DDE formerly DDK), 8 to Escort Destroyers (DDE), *Timmerman* completed to a new design (EDD) but re-designated (AG) was scrapped in 1959. *Richard E. Kraus*, formerly AG, restored to DD, Jan. 1954. Cancellations: DD 809-816, 854-856, 891-926. *Abner Read* (769), *Noel* (768), uncompleted and scrapped.

Reconstruction Notes

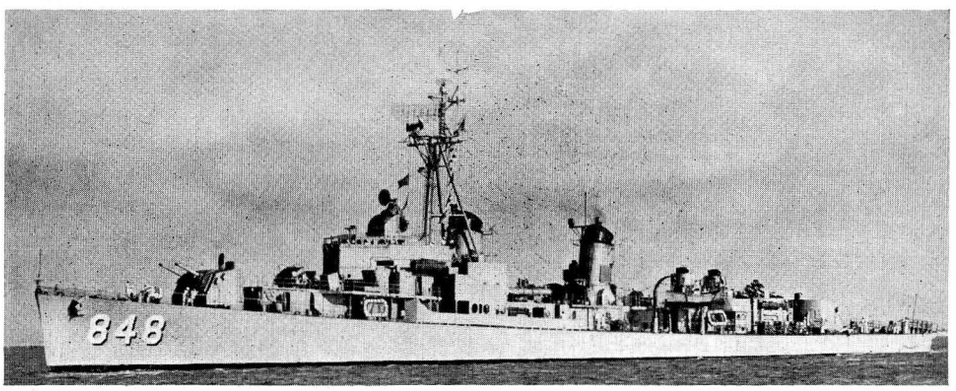
Perry, DD 844, was converted and modernised for anti-submarine warfare at a cost of $7,700,000 in Boston Naval Shipyard. She is the first of 163 destroyers to be modernised in scheduled five years (see notes on FRAM Program on page 390 of the 1959-60 edition. She lost some of her conventional armament but gained new weapons and electronic equipment, including ASROC. Conversion commenced on 1 May 1959 and was completed on 1 Apr. 1960. The ships starred in the table above have also undergone FRAM I conversion and are equipped with DASH and ASROC. The FRAM conversions have ASROC launcher in place of the old torpedo tubes.

FRAM I extends life eight years, rebuilds superstructure, rehabilitates engines and electronics, and installs ASROC. To total 79 units.

FRAM II extends life five years, installs DASH and variable depth sonar, VDS. To total 52 units.



STRIBLING (FRAM conversion, ASROC) 1962, *Mr. W. H. Davis*



WITEK (jet propulsion, 4—5 inch guns) *Added* 1960, *United States Navy, Official*

Name	*Launched*	*Completed*
**Agerolm*	30 Mar. 1946	20 June 1946
**Arnold J. Isbell*	6 Aug. 1945	5 Jan. 1946
**Baussell*	19 Nov. 1945	7 Feb. 1946
**Brinkley Bass*	26 May 1945	14 Sep. 1945
Brownson	7 July 1945	17 Nov. 1945
**Charles H. Roan*	15 Mar. 1946	12 Sep. 1946
**Charles R. Ware*	12 Apr. 1945	21 July 1945
**Cone*	10 May 1945	17 Aug. 1945
**Eversole*	8 Jan. 1946	10 May 1946
**Floyd B. Parks*	31 Mar. 1945	31 July 1945
**Forrest Royal*	17 Jan. 1946	28 June 1946
**Gearing*	18 Feb. 1945	3 May 1945
George H. McKenzie	13 May 1945	13 July 1945
**Glennon*	14 July 1945	4 Oct. 1945
Gurke	15 Feb. 1945	12 May 1945
**Hamner*	24 Nov. 1945	11 July 1946
**Harold I. Ellison*	14 Mar. 1945	23 June 1945
**Henderson*	28 May 1945	4 Aug. 1945
**Hollister*	9 Oct. 1945	29 Mar. 1946
**James E. Kyes*	4 Aug. 1945	8 Feb. 1946
**John R. Craig*	14 Apr. 1945	20 Aug. 1945
**Johnston*	19 Oct. 1945	22 Aug. 1946
**Joseph P. Kennedy, Jr.*	26 July 1945	14 Dec. 1945
Leonard F. Mason	4 Jan. 1946	28 June 1946
**Meredith*	28 June 1945	31 Dec. 1945
**Noa*	30 July 1945	1 Nov. 1945
Orleck	12 May 1945	15 Sep. 1954
**Ozbourn*	22 Dec. 1945	5 Mar. 1946
**Perry*	25 Nov. 1945	17 Jan. 1946
**Power*	30 June 1945	13 Sep. 1945
**Richard B. Anderson*	7 July 1945	28 Sep. 1945
Richard E. Kraus	2 Mar. 1945	23 May 1946
**Robert H. McCard*	9 Nov. 1945	22 Oct. 1946
Rowan	29 Dec. 1944	31 Mar. 1945
Rupertus	21 Sep. 1945	8 Mar. 1946
**Samuel B. Roberts*	30 Nov. 1945	19 Dec. 1946
**Sarsfield*	27 May 1945	31 July 1945
**Shelton*	8 Mar. 1946	21 June 1946
**Stribling*	8 June 1945	29 Sep. 1945
**Theodore E. Chandler*	20 Oct. 1945	21 Mar. 1946
**Vogelgesang*	15 Jan. 1945	28 Apr. 1945
**Warrington*	27 Sep. 1945	20 Dec. 1945
**William C. Lawe*	21 May 1945	18 Dec. 1946
**Wiltsie*	31 Aug. 1945	11 Jan. 1946
Witek	2 Feb. 1946	25 Apr. 1946

* FRAM I Programme Conversion.

Gunnery Notes

"B" twin 5-inch mounting was removed from the experimental destroyers *Sarsfield* and *Witek*, and the after twin 5-inch mounting was removed from *Witek* in 1962 to make room for installation of sonar dome tow-hoist mechanism.

All K-guns have been removed and replaced by two torpedo launching racks. The after twin 5-inch mounting and the three twin 3-inch mountings have been removed from the FRAM I conversions.

Torpedo Notes

The five 21-inch torpedo tubes have been removed from *Johnston*, DD 821, and from the FRAM conversions.

Jet Propulsion Notes

A new type propulsion system known as "pumpjet" was installed in *Witek*, EDD 848, in 1959 at Boston Naval Shipyard. This device consists of two units which replace conventional propellers and make the ship quieter (see illustrations in the Addenda, page 478, 1959-60 edition).

Class Notes

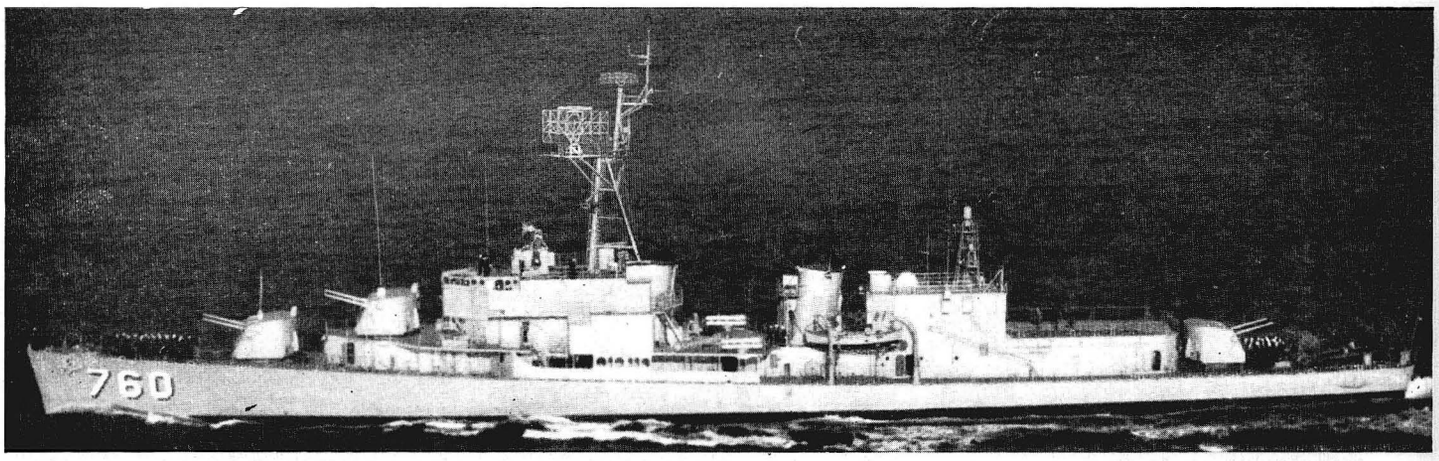
Richard E. Kraus, *Sarsfield* and *Witek* are EDD (experimental destroyers). *Gyatt* was converted into a Guided Missile destroyer (DDG) in 1956, see earlier page.

Photograph Notes

Photographs of *Meredith* in the 1952-53 to 1957-58 editions, of *Charles R. Ware* in the 1956-57 and 1957-58 editions, of *Theodore E. Chandler* in the 1957-58 to 1959-60 editions, of *Forrest Royal* in the 1959-60 edition, and of *Floyd B. Parks* in the 1957-58 to 1960-61 editions.

Recent Disposals

The uncompleted hulls of *Lansdale* and *Seymour D. Owens* (stricken from the list on 9 June 1958) and *Seaman* (stricken in Mar. 1961) were scrapped. The uncompleted hulls of *Castle* and *Woodrow R. Thompson* were scrapped on 29 Aug. 1955.



JOHN W. THOMASON (prototype FRAM conversion

1960, *United States Navy, Official*

Destroyers (DD)

53 " Allen M. Summer " Class

11 *Bath Iron Works Corpn.*
DD
722 BARTON
730 COLLETT
732 HYMAN
727 DE HAVEN
724 LAFFEY
729 LYMAN K. SWENSON
731 MADDOX
728 MANSFIELD
725 O'BRIEN
734 PURDY
723 WALKE

6 *Bethlehem Steel Co. (S. Francisco)*
761 BUCK
762 HENLEY
760 JOHN W. THOMASON
759 LOFBERG
757 PUTNAM
758 STRONG

10 *Bethlehem Steel Co. (Staten Island)*
752 ALFRED A. CUNNINGHAM
756 BEATTY
744 BLUE
745 BRUSH
754 FRANK E. EVANS
748 HARRY E. HUBBARD
755 JOHN A. BOLE
753 JOHN R. PIERCE
747 SAMUEL L. MOORE
746 TAUSSIG

4 *Bethlehem Steel Co. (S. Pedro)*
857 BRISTOL
776 JAMES C. OWENS
770 LOWRY
775 WILLARD KEITH

17 *Federal S.B. & D.D. Co.*
692 ALLEN M. SUMNER
698 AULT
704 BORIE
697 CHARLES S. SPERRY
705 COMPTON
696 ENGLISH
706 GAINARD
702 HANK
708 HARLAN R. DICKSON
700 HAYNSWORTH
709 HUGH PURVIS
694 INGRAHAM
701 JOHN W. WEEKS
693 MOALE
707 SOLEY
699 WALDRON
703 WALLACE L. LIND

5 *Todd Pacific Shipyards*
779 DOUGLAS H. FOX
778 MASSEY
781 ROBERT K. HUNTINGTON
780 STORMES
777 ZELLARS

Displacement:	2,200 tons *standard* (3,300 tons *full load*)
Dimensions:	376½ × 40¾ × 19 (*max.*) feet
Guns:	6—5 inch, 38 cal., 6—3 inch, 50 cal. AA. (3 inch removed from FRAM conversions)
Tubes:	5—21 inch (quintupled)—removed from FRAM conversions and replaced by two triple tube ASW torpedo launchers
A/S weapons:	2 hedgehogs mounted on deckhouse abeam bridge front, 1 D.C. rack, 2 side-launching torpedo racks.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=34 kts. (designed), 33 kts. actual
Boilers:	4 Babcock & Wilcox, working pressure 600 lb. per sq.inch.
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	350 (war)

General Notes

Have a larger radius of action than any destroyers previously constructed. Type is an enlargement and modification of the " Fletcher " design. After set of tubes was removed. Twelve of this class (two scrapped) were fitted for minelaying and re-rated as DM 23-24 (see page 339), *Hugh W. Hadley* was sold. War losses: *Cooper, Drexler, Mannert L. Abele, Meredith.*

Reconstruction Notes

John W. Thompson, DD 760, was the prototype conversion for this class under the "FRAM II" Program (see page 338). Fitted with " DASH " (drone anti-submarine helicopter) carried on after deck landing area, with hangar facilities, variable depth sonar (1 ton sonar dome dropped over stern) and ASW torpedo tubes. The 3 inch guns and conventional torpedo tubes were removed. The ships starred in the above table have also undergone " FRAM II " conversion. *Collett*, damaged in collision with *Ammen*, received replacement bow from hull of suspended *Seaman*, at Long Beach, California, in Aug. 1960.

Gunnery Notes

40 mm. and 20 mm. mounts were replaced by 3-inch, 50 cal. mounts in *Borie, Frank E. Evans, Gainard, Harry E. Hubbard, Zellars* and many others (two twin, two single).

A/S Weapons Notes

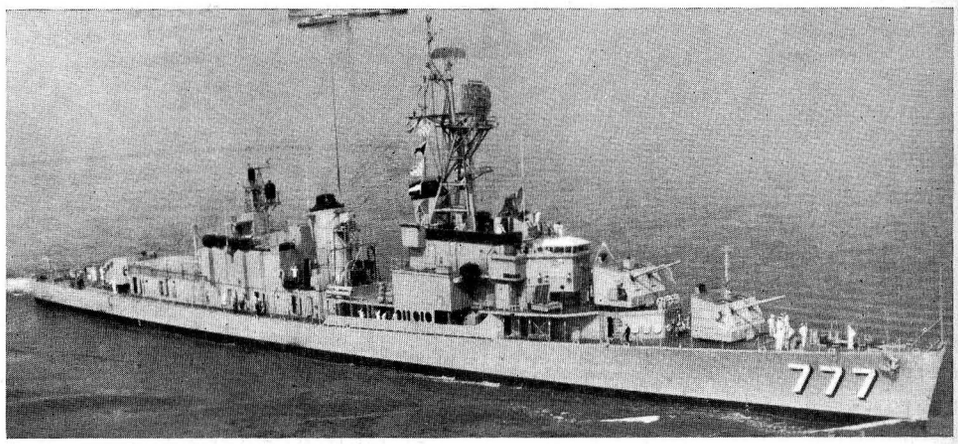
All but one D.C. rack and all K-guns have been removed and replaced by two side-launching torpedo racks.

Appearance Notes

The big spreaders on second funnel are ECM antennae supports which are now fitted on all of this type.

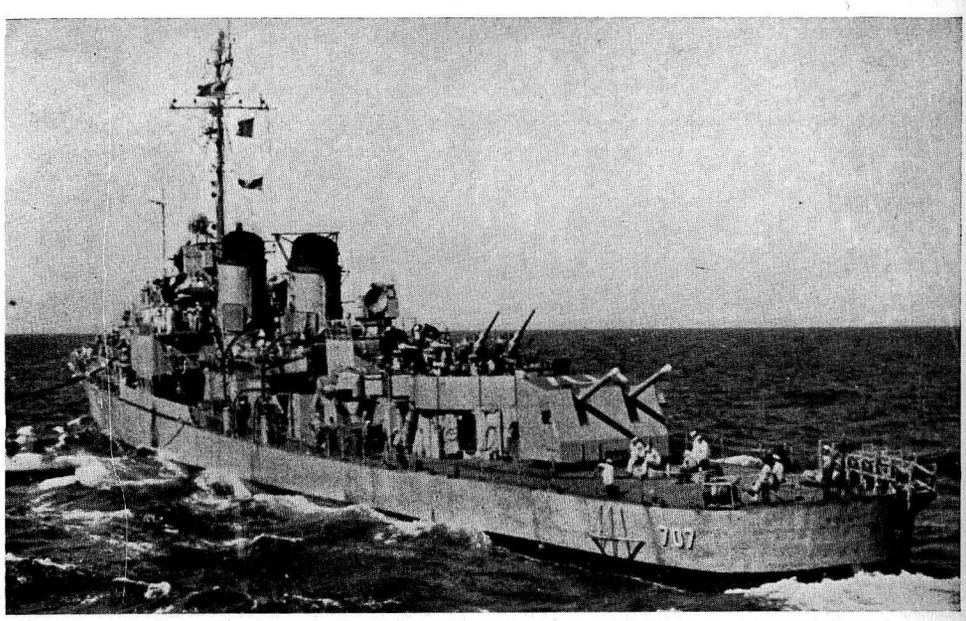
Photograph Notes

Photographs of *Moale* and *Zellars* (before FRAM modernisation) in the 1957-58 edition, *Hyman* in the 1954-55 to 1958-59 editions, *Waldron* in the 1958-59 and 1959-60 editions. and *Charles S. Sperry* in the 1959-60 and 1960-61 editions



ZELLARS (after FRAM conversion)

1961, *United States Navy, Official*



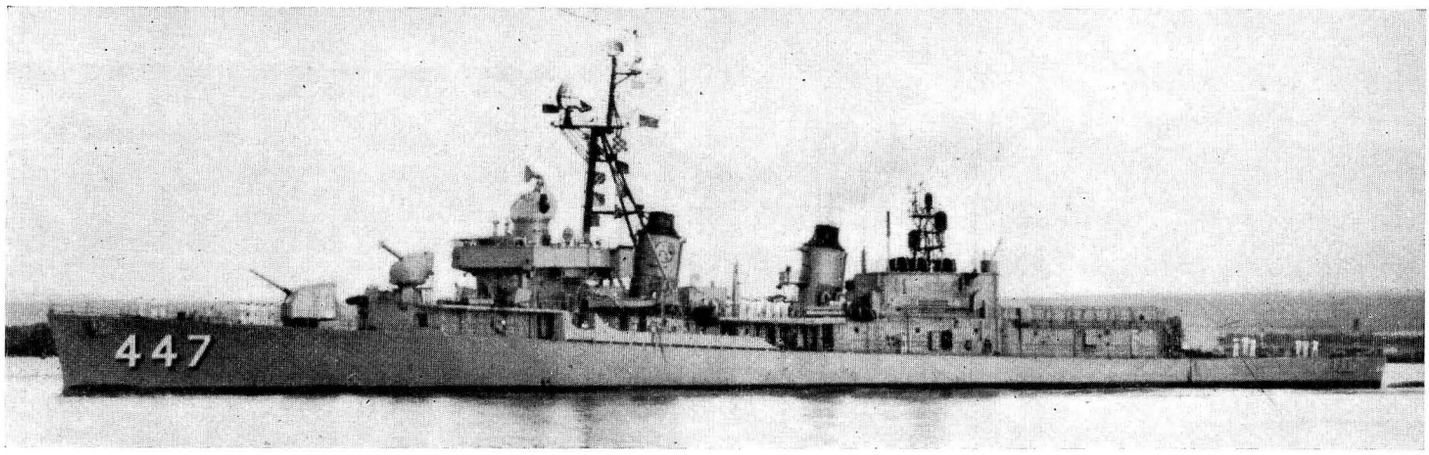
SOLEY

1957, *Giorgio Arra*

Name	Launched	Completed
*Alfred A. Cunningham	3 Aug. 1944	23 Nov. 1944
*Allen M. Sumner	15 Dec. 1943	26 Jan. 1944
Ault	26 Mar. 1944	31 May 1944
Barton	10 Oct. 1943	30 Dec. 1943
Beatty	30 Nov. 1944	31 Mar. 1945
*Blue	28 Nov. 1943	20 Mar. 1944
Borie	4 July 1944	21 Sep. 1944
Bristol	29 Oct. 1944	17 Mar. 1945
Brush	28 Dec. 1943	17 Apr. 1944
Buck	11 Mar. 1945	28 June 1946
*Charles H. Sperry	13 Mar. 1944	17 May 1944
Collett	5 Mar. 1944	16 May 1944
Compton	17 Sep. 1944	4 Nov. 1944
*De Haven	9 Jan. 1944	31 Mar. 1944
Douglas H. Fox	30 Sep. 1944	26 Dec. 1944
English	27 Feb. 1944	4 May 1944
*Frank E. Evans	3 Oct. 1944	3 Feb. 1944
Gainard	17 Sep. 1944	23 Nov. 1944
Hank	21 May 1944	28 Aug. 1944
Harlan R. Dickson	17 Dec. 1944	17 Feb. 1945
Harry E. Hubbard	24 Mar. 1944	22 July 1944
Haynsworth	15 Apr. 1944	22 June 1944
Henley	8 Apr. 1945	8 Oct. 1946
*Hugh Purvis	17 Dec. 1944	1 Mar. 1945
Hyman	8 Apr. 1944	16 June 1944
*Ingraham	16 Jan. 1944	10 Mar. 1944

Name	Launched	Completed
James C. Owens	1 Oct. 1944	17 Feb. 1945
John A. Boyle	1 Nov. 1944	3 Mar. 1945
John R. Pierce	1 Sep. 1944	30 Dec. 1944
John W. Thomason	30 Sep. 1944	11 Oct. 1945
John W. Weeks	21 May 1944	21 July 1944
Laffey	21 Nov. 1943	8 Feb. 1944
Lafberg	12 Aug. 1944	26 Apr. 1945
Lowry	6 Feb. 1944	23 July 1944
*Lyman K. Swenson	12 Feb. 1944	2 May 1944
*Maddox	19 Mar. 1944	2 June 1944
*Mansfield	29 Jan. 1944	14 Apr. 1944
*Massey	19 Aug. 1944	24 Nov. 1944
*Moale	16 Jan. 1944	28 Feb. 1944
*O'Brien	8 Dec. 1943	25 Feb. 1944
Purdy	7 May 1944	18 July 1944
Putnam	26 Mar. 1944	12 Oct. 1944
*Robert K. Huntington	10 Dec. 1944	3 Mar. 1945
Soley	8 Sep. 1944	7 Dec. 1944
*Stormes	4 Nov. 1944	27 Jan. 1945
Strong	22 Apr. 1944	8 Mar. 1945
Samuel L. Moore	23 Feb. 1944	24 June 1944
Taussig	25 Jan. 1944	20 May 1944
Waldron	26 Mar. 1944	8 June 1944
*Walke	27 Oct. 1943	21 Jan. 1944
Wallace L. Lind	14 June 1944	8 Sep. 1944
Willard Keith	29 Aug. 1944	27 Dec. 1944
*Zellars	19 July 1944	25 Oct. 1944

* FRAM II Programme Conversion.



JENKINS (after FRAM conversion, equipped with DASH)

1962, *courtesy Mr. W. H. Davis*

Destroyers (DE, ex-DDE)
Former Anti-Submarine Destroyers
18 Converted "Fletcher" Class

7 Bath Iron Works Corpn.

DDE
507 CONWAY
508 CONY
510 EATON
449 NICHOLAS
450 O'BANNON
468 TAYLOR
517 WALKER

2 Bethlehem (Staten Island)

470 BACHE
471 BEALE

2 Consolidated Steel Corpn., Orange, Texas

576 MURRAY
577 SPROSTON

7 Federal S.B. & D.D. Co.

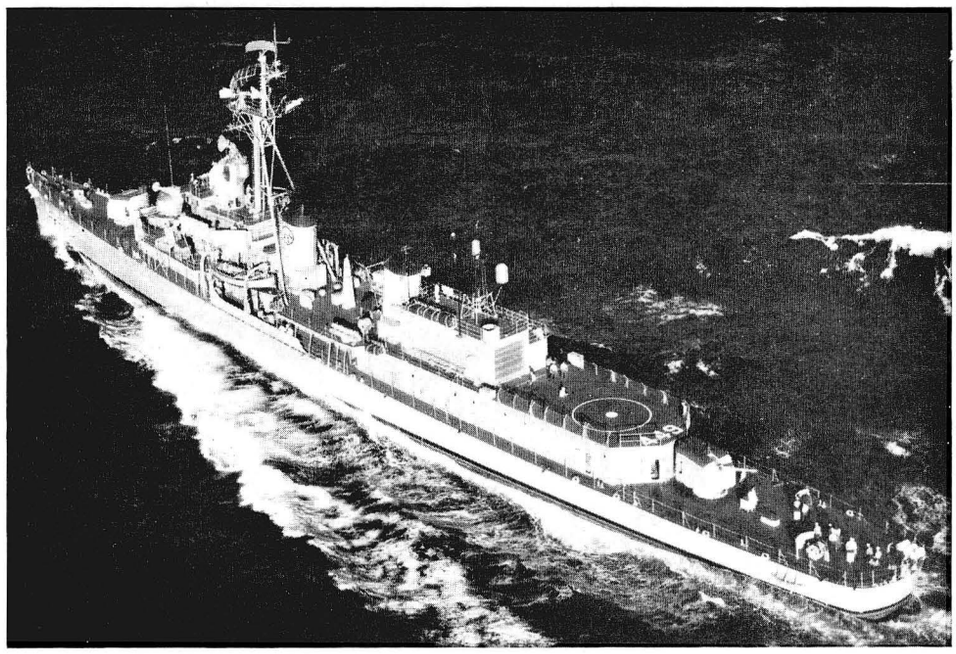
445 FLETCHER
447 JENKINS
498 PHILIP
446 RADFORD
499 RENSHAW
E 465 SAUFLEY
466 WALLER

Displacement:	2,080 tons *standard* (2,940 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39½ × 18 (*max.*) feet
Guns:	2—5 inch, 38 cal., 4—3 inch, 50 cal. in twin mountings (see notes)
Tubes:	4—21 inch fixed in after deckhouse
A/S weapons:	1 ahead throwing rocket launcher in place of "B" turret, or trainable Hedgehog, 1 D.C. rack, 2 side-launching torpedo racks, 2 Hedgehogs (fixed)
Machinery:	G.E. geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	300 (war)

General Notes
Originally destroyers (DD) but converted to serve as close-support convoy escorts, 9 under the 1948 Program, 3 under the 1949 Program, and 6 under the 1950 Program and reclassified as DDE. Again reclassified as DD on 1 July 1962.

Conversion Notes
Jenkins, *Nicholas* and *Radford* underwent FRAM II conversion (Fleet Rehabilitation and Modernisation) in 1960, with DASH, helo deck and hangar for two drones, and ASW torpedo launchers, a nest of three on each side.

Gunnery Notes
The 3 inch guns were removed from FRAM conversions.



NICHOLAS (after FRAM conversion)

1961, *United States Navy, Official*

A/S Weapon Notes
Fixed hedgehogs have been installed on the port and starboard side of the forward shelter deck below the bridge wings.

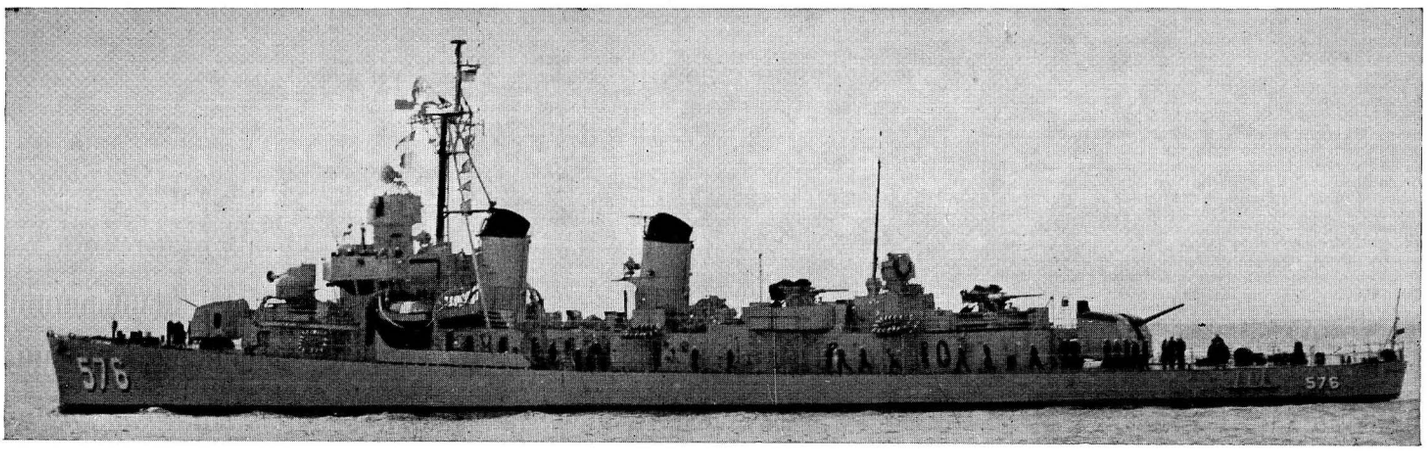
Sonar Notes
Jenkins is fitted with variable depth sonar (VDS) on stern.

Experimental Notes
Saufley is equipped as an experimental destroyer; carries 1—5 inch, 2—3 inch, no tubes.

Photograph Notes
Photographs of *Fletcher*, *Jenkins* and *Nicholas* before conversion in the 1957-58 edition, and of *Cony* in the 1958-59 to 1960-61 editions.

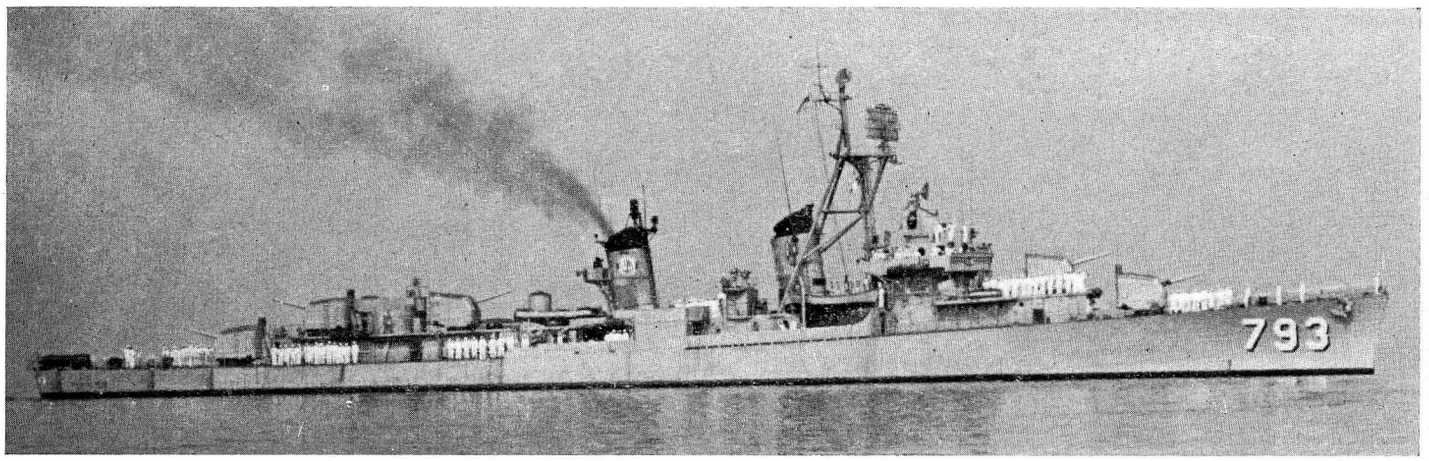
Name	*Laid down*	*Launched*	*Completed*
Bache	19 Nov. 1941	27 June 1942	14 Nov. 1942
Beale	19 Dec. 1941	25 Aug. 1942	23 Dec. 1942
Conway	5 Nov. 1941	16 Aug. 1942	9 Oct. 1942
Cony	24 Dec. 1941	16 Aug. 1942	30 Oct. 1942
Eaton	17 Mar. 1942	20 Sep. 1942	4 Dec. 1942
Fletcher	2 Oct. 1941	3 May 1942	30 June 1942
**Jenkins*	22 Nov. 1941	21 June 1942	31 July 1942
Murray	16 Mar. 1942	16 Aug. 1942	20 Apr. 1943
**Nicholas*	3 Mar. 1942	19 Feb. 1942	4 June 1942
O'Bannon	3 Mar. 1941	14 Mar. 1942	26 June 1942
Philip	7 May 1942	13 Oct. 1942	20 Nov. 1942
**Radford*	2 Oct. 1941	3 May 1942	21 July 1943
Renshaw	7 May 1942	13 Oct. 1942	4 Dec. 1942
Saufley	27 Jan. 1942	19 July 1942	28 Aug. 1942
Sproston	1 Apr. 1942	31 Aug. 1942	18 May 1942
Taylor	28 Aug. 1941	7 June 1942	28 Aug. 1942
Walker	31 Aug. 1942	31 Jan. 1943	2 Apr. 1943
Waller	12 Feb. 1942	15 Aug. 1942	30 Sep. 1942

* FRAM II Programme Conversions.



MURRAY

1957, *Official*



CASSIN YOUNG

Added 1961, *Giorgio Arra*

Destroyers (DD)

46 Later "Fletcher" Class

8 Bath Iron Works Corpn.

DD
650 CAPERTON
651 COGSWELL
652 INGERSOLL
653 KNAPP
691 MERTZ
690 NORMAN SCOTT
688 REMEY
689 WADLEIGH

2 Bethlehem Steel Co. (S. Francisco)

683 STOCKHAM
684 WEDDERBURN

6 Bethlehem Steel Co. (Staten Island)

657 CHARLES J. BADGER
658 COLAHAN
686 HALSEY POWELL
798 MONSSEN
685 PICKING
687 UHLMANN

5 Bethlehem Steel Co. (S. Pedro)

793 CASSIN YOUNG
681 HOPEWELL
794 IRWIN
682 PORTERFIELD
795 PRESTON

1 Boston Navy Yard

662 BENNION

2 Charleston Navy Yard

649 ALBERT W. GRANT
665 BRYANT

16 Federal S.B. & D.D. Co.

666 BLACK
660 BULLARD
667 CHAUNCEY
668 CLARENCE K. BRONSON
669 COTTEN
659 DASHIELL
671 GATLING
672 HEALY
673 HICKOX
674 HUNT
661 KIDD
675 LEWIS HANCOCK
677 McDERMUT
679 McNAIR
676 MARSHALL
680 MELVIN

3 Gulf S.B. Corpn.

654 BEARSS
655 JOHN HOOD
656 VAN VALKENBURGH

3 Todd Pacific Shipyards

802 GREGORY
800 PORTER
804 ROOKS

Displacement:	2,050 tons *standard* (3,050 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39½ × 18 (*max.*) feet
Guns:	5—5 inch, 38 cal., 10—40 mm., 8—20 mm. AA. (20 mm. removed from all active units) *Converted ships:* 4—5 inch. 38 cal., 6—3 inch, 50 cal. AA. (see *Conversion Notes*)
Tubes:	5—21 inch (quintupled). Some (in reserve) have two sets of 5 torpedo tubes
A/S weapons:	2 Hedgehogs, 1 D.C. track, 2 side-launching torpedo racks
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 60,000= 35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	300 (war)

General Notes

Laid down under the 1942 Program. Builders above. Except that they have lower fire controls and flat-faced bridges these ships are in most respects like "Fletcher" class, described on the following page. Some of the later units of *Fletcher* class are, in fact, almost indistinguishable from modified type—e.g. *Ammen, Sigourney. Dortch* was built in 158 days. **War losses:** *Callahan, Colhoun, Little.*

A/S Weapon Notes

All K-guns have been removed and replaced by two side-launching torpedo racks.

Conversion Notes

Black, Caperton, Cogswell, Hopewell, John Hood, McGowan, McNair, Picking, Preston, Uhlmann and many others have 4—5 inch (two forward, two aft), 6—3 inch, 50 cal. AA. (one pair superfiring aft, two pairs between the funnels), 5 torpedo tubes abaft after funnel. A 3-inch director on a tall pedestal replaces 3rd 5-inch in "Q" position. The forward torpedo bank between the funnels was suppressed. These ships have a tripod mast (see photo of *Cotten*). All vessels of the class have been or are being similarly rearmed except *Albert W. Grant, Bennion, Bullard, Bryant, Melvin, Mertz, Norman Scott*, which are in reserve and mount their original battery.

Transfer Notes

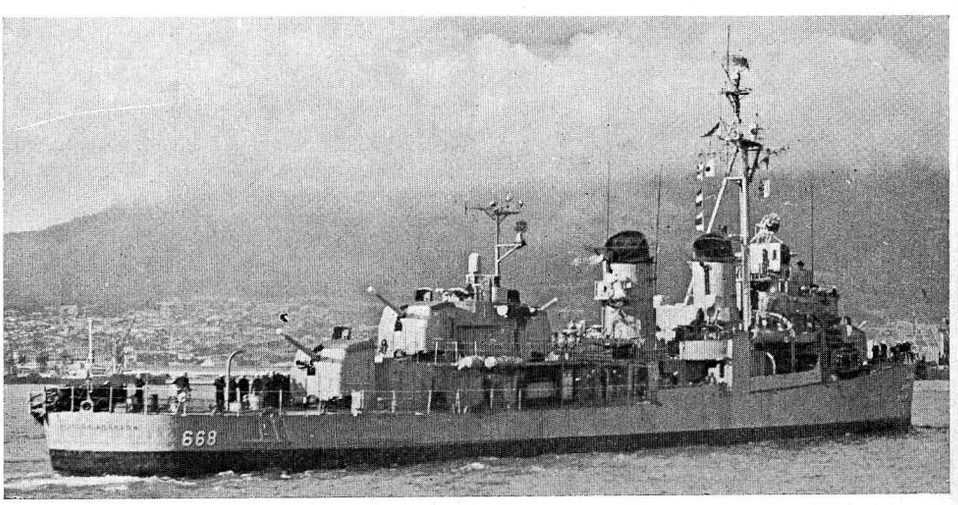
Heywood L. Edwards, DD 663, and *Richard P. Leary*, DD 664, were transferred to Japan at Long Beach, California, on 10 Mar. 1959, *Cushing* DD 797, was transferred to Brazil in 1961, *Benham*, DD 796, was transferred to Peru in Dec. 1960, and *Jarvis*, DD 799, and *McGowan*, DD 678, were tranferred to Spain in Nov. and Dec. 1960, respectively.

Dortch, DD 670, was transferred to Argentina on 1 Aug. 1961. *Rooks*, DD 804, and *Wadleigh*, DD 689, are to be transferred to a foreign country under MAP.



COTTEN

Added 1957, *U.S. Navy, Official*



CLARENCE K. BRONSON

1957, *R. M. Scott*

Appearance Notes

The majority of the active units of this class have tripod mast as in *Cotton* and *Clarence K. Bronson* (see photos above).

Photograph Notes

A large near broadside view of *Caperton* appears in the 1956-57 to 1960-61 editions.

Name	*Launched*	*Completed*
Albert W. Grant	29 May 1943	24 Nov. 1943
Bearss	25 July 1943	12 Apr. 1944
Bennion	4 July 1943	14 Dec. 1943
Black	28 Mar. 1943	21 May 1943
Bullard	28 Feb. 1943	9 Apr. 1943
Bryant	29 May 1943	4 Dec. 1943
Caperton	24 July 1943	30 July 1943
Cassin Young	12 Sep. 1943	31 Dec. 1943
Charles J. Badger	3 Apr. 1943	23 July 1943
Chauncey	28 Mar. 1943	31 May 1943
Clarence K. Bronson	18 Apr. 1943	11 June 1943
Cogswell	5 June 1943	17 Aug. 1943
Colahan	2 May 1943	23 Aug. 1943
Cotten	12 June 1943	24 July 1943
Dashiell	6 Feb. 1943	20 Mar. 1943
Gatling	20 June 1943	19 Aug. 1943
Gregory	8 May 1944	29 July 1944
Halsey Powell	30 June 1943	25 Oct. 1943
Healy	4 July 1943	3 Sep. 1943
Hickox	4 July 1943	10 Sep. 1943
Hopewell	2 May 1943	30 Sep. 1943
Hunt	1 Aug. 1943	22 Sep. 1943
Ingersoll	28 June 1943	31 Aug. 1943
Irwin	31 Oct. 1943	14 Feb. 1944
John Hood	23 Oct. 1943	7 June 1944
Kidd	28 Feb. 1943	23 Apr. 1944
Knapp	10 July 1943	15 Sep. 1943
Lewis Hancock	1 Aug 1943	29 Sep. 1943
McDermut	17 Oct. 1943	19 Nov. 1943
McNair	14 Nov 1943	30 Dec. 1943
Marshall	29 Aug. 1943	16 Oct. 1943
Melvin	17 Oct. 1943	24 Nov. 1943
Mertz	11 Sep. 1943	19 Nov. 1943
Monssen	29 Oct. 1943	12 Feb. 1944
Norman Scott	28 Aug. 1943	5 Nov. 1943
Picking	31 May 1943	21 Sep. 1943
Porter	13 Mar. 1944	24 June 1944
Porterfield	13 June 1943	30 Oct. 1943
Preston	12 Dec. 1943	20 Mar. 1944
Remey	24 July 1943	30 Sep. 1943
Rooks	6 June 1944	2 Sep. 1944
Stockham	25 July 1943	11 Feb. 1944
Uhlmann	30 July 1943	22 Nov. 1943
Van Valkenburgh	19 Dec. 1943	2 Aug. 1944
Wadleigh	7 Aug. 1943	19 Oct. 1943
Wedderburn	1 Aug. 1943	9 Mar. 1944

Destroyers (DD)

54 "Fletcher" Class

DD

6 Bath Iron Works Corpn.

629 ABBOT
630 BRAINE
631 ERBEN
511 FOOTE
643 SIGOURNEY
513 TERRY

11 Bethlehem (San Francisco)

531 HAZELWOOD
534 McCORD
535 MILLER
528 MULLANY (Ex-Beatty)
536 OWEN
538 STEPHEN POTTER
537 THE SULLIVANS (ex-Putnam)
539 TINGEY
530 TRATHEN
540 TWINING
541 YARNALL

2 Bethlehem (San Pedro)

544 BOYD
547 COWELL

2 Bethlehem (Staten Island)

519 DALY
521 KIMBERLY

2 Boston Navy Yard

585 HARADEN
475 HUDSON

6 Charleston Navy Yard

587 BELL
588 BURNS
589 IZARD
590 PAUL HAMILTON
478 STANLEY
479 STEVENS

DD

5 Consolidated Steel Corpn., Orange, Texas

573 HARRISON
574 JOHN RODGERS
575 McKEE
578 WICKES
580 YOUNG

3 Federal S.B. & D.D. Co.

448 LA VALLETTE
501 SCHROEDER
502 SIGSBEE

1 Gulf S.B. Corpn., Chickasaw, Ala.

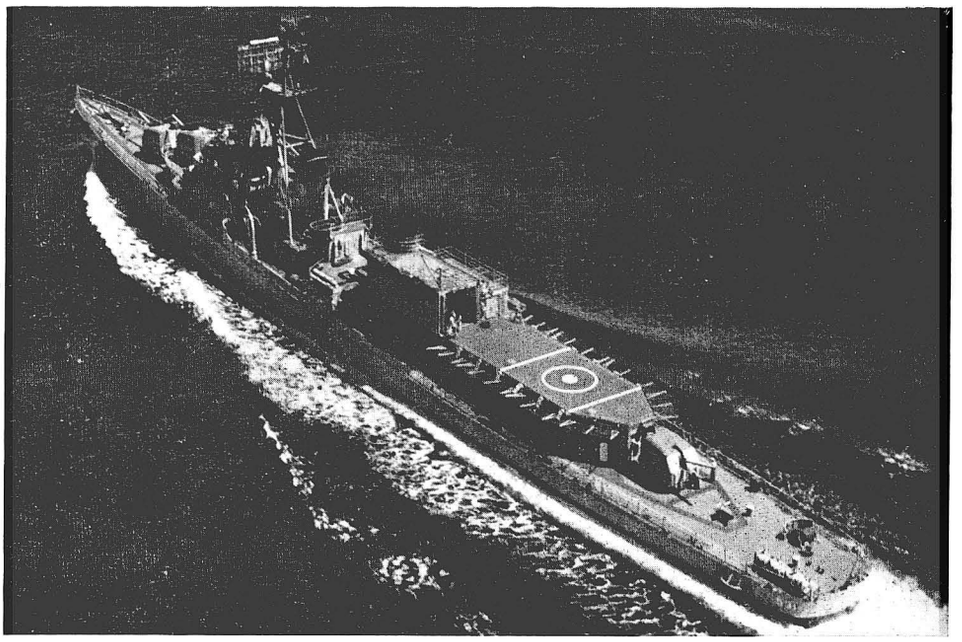
553 JOHN D. HENLEY

6 Puget Sound Navy Yard

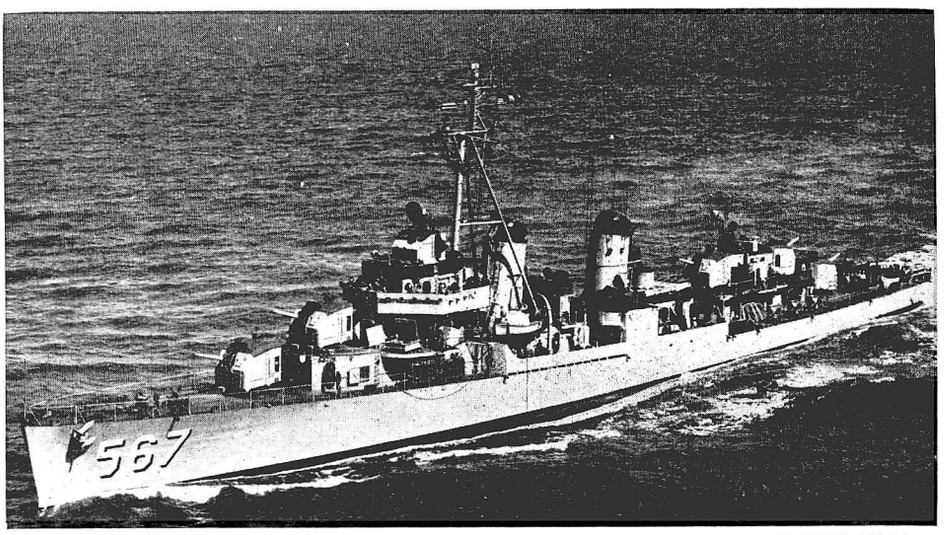
480 HALFORD
594 HART (ex-Mansfield)
593 KILLEN
595 METCALF
596 SHIELDS
597 WILEY

10 Seattle-Tacoma S.B., Corpn., Seattle

554 FRANKS
558 LAWS
561 PRITCHETT
562 ROBINSON
563 ROSS
564 ROWE
565 SMALLEY
566 STODDARD
567 WATTS
568 WREN



HAZLEWOOD (as converted with helicopter hangar and flight deck aft) 1960, "*Our Navy*"



WATTS *Added* 1957, *Official*

Displacement:	2,100 tons *standard* (3,050 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39½ × 12¼ (*mean*), 18 (*max.*) feet
Guns:	5—5 inch, 38 cal. d.p., 6—40 mm Bofors AA. (see *Conversion Notes*) Rearmed ships: 4—5 inch, 38 cal., 6—3 inch, 50 cal. AA.
Tubes:	5—21 inch (quintupled). Some ships in reserve have two sets of 5 torpedo tubes
A/S weapons:	2 fixed Hedgehogs, 1 D.C. rack, 2 side-launching torpedo racks
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000 = 35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement	300 (peace), 350 (war)

Name	*Laid down*	*Launched*	*Completed*
Abbot	21 Sep. 1942	17 Feb. 1943	23 Apr. 1943
Bell	24 Feb. 1942	24 June 1942	4 Mar. 1943
Boyd	2 Apr. 1942	29 Oct. 1942	8 May 1943
Braine	12 Oct. 1942	7 Mar. 1943	11 May 1943
Burns	9 May 1942	8 Aug. 1942	3 Apr. 1943
Cowell	7 Sep. 1942	18 Apr. 1943	23 Aug. 1943
Daly	29 Apr. 1942	24 Oct. 1942	9 Mar. 1943
Erben	28 Oct. 1942	21 Mar. 1943	28 May 1943
Foote	14 Apr. 1942	11 Oct. 1942	22 Dec. 1942
Franks	8 Mar. 1942	7 Dec. 1942	30 July 1943
Halford	3 June 1941	29 Oct. 1942	1 May 1943
Haraden	3 June 1942	19 Mar. 1943	16 Sep. 1943
Harrison	25 July 1941	7 May 1942	25 Jan. 1943
Hart	10 Aug. 1943	25 Sep. 1944	1 Dec. 1944
Hazlewood	1 Apr. 1942	20 Nov. 1942	18 June 1943
Hudson	23 Feb. 1942	3 June 1942	13 Apr. 1943
Izard	9 May 1942	8 Aug. 1942	15 May 1943
John D. Henley	21 July 1941	15 Nov. 1942	2 Feb. 1944
John Rodgers	25 July 1941	7 May 1942	9 Feb. 1943
Killen	26 Nov. 1941	10 Jan. 1943	1 June 1944
Kimberly	27 July 1942	4 Feb. 1943	22 May 1943
La Vallette	27 Nov. 1941	21 June 1942	11 Aug. 1942
Laws	19 May 1942	22 Apr. 1943	18 Nov. 1943
Metcalf	10 Aug. 1943	25 Sep. 1944	15 Dec. 1944
Miller	18 Aug. 1942	7 Mar. 1943	31 Aug. 1943
Mullany	15 Jan. 1942	10 Oct. 1942	23 Apr. 1943
McCord	17 Mar 1942	10 Jan. 1943	19 Aug. 1943
McKee	2 Mar. 1942	2 Aug. 1942	31 Mar. 1943
Owen	17 Sep. 1942	21 Mar. 1943	20 Sep. 1943
Paul Hamilton	20 Jan. 1943	7 Apr. 1943	15 Nov. 1943
Prichett	20 July 1942	31 July 1943	15 Jan. 1944
Robinson	12 Aug. 1942	28 Aug. 1943	31 Jan. 1944
Ross	7 Sep. 1942	10 Sep. 1943	21 Feb. 1944
Rowe	7 Dec. 1942	30 Sep. 1943	13 Mar. 1944
Schroeder	25 June 1942	11 Nov. 1942	31 Dec. 1942
Shields	10 Aug. 1943	25 Sep. 1944	22 Feb. 1945
Sigourney	7 Dec. 1942	24 Apr. 1943	29 June 1943
Sigsbee	22 July 1942	7 Dec. 1942	22 Jan. 1943
Smalley	9 Feb. 1943	27 Oct. 1943	31 Mar. 1944
Stanley	30 Dec. 1941	2 May 1942	15 Oct. 1942
Stephen Potter	27 Oct. 1942	28 Apr. 1943	21 Oct. 1943
Stevens	30 Dec 1941	24 June 1942	1 Feb. 1943
Stoddard	10 Mar. 1943	19 Nov. 1943	15 Apr. 1944
Terry	8 June 1942	22 Nov. 1942	26 Jan. 1943
The Sullivans	10 Oct. 1942	4 Apr. 1943	30 Sep. 1943
Tingey	22 Oct. 1942	28 May 1943	25 Nov. 1943
Trathen	18 July 1942	22 Oct. 1942	28 May 1943
Twining	20 Nov. 1942	11 July 1943	1 Dec. 1943
Watts	26 Mar. 1943	31 Dec. 1943	29 Apr. 1944
Wickes	15 Apr. 1942	13 Sep. 1942	16 June 1943
Wiley	10 Aug. 1943	25 Sep 1944	14 Mar. 1945
Wren	24 Apr. 1943	29 Jan. 1944	20 May 1944
Yarnall	5 Dec. 1942	25 July 1943	30 Dec. 1943
Young	7 May 1942	11 Oct. 1942	31 July 1943

General Notes

Laid down under the 1940-41 Program. Builders above. During the war six units (including *Halford* in 1943) were experimentally fitted with a seaplane and catapult, in place of deckhouse between "Q" and "X" turrets (armament being temporarily reduced by 1—5 inch and 5 T.T.); and some, including *Young*, had only one set of tubes. All those with two sets now reduced to one. Eighteen of these ships were modified for duty as escort destroyers (DDE), viz.: *Bache*, *Beale*, *Conway*, *Cony*, *Eaton*, *Fletcher*, *Jenkins*, *Murray*, *Nicholas*, *O'Bannon*, *Philip*, *Radford*, *Renshaw*, *Saufley*, *Sproston*, *Taylor*, *Walker* and *Waller*—see above. War losses: *Abner Reed*, *Brownson*, *Bush*, *Chevalier*, *De Haven*, *Halligan*, *Hoel*, *Johnston*, *Longshaw*, *Luce*, *Morrison*, *Pringle*, *Spence*, *Strong*, *Twiggs*, *William D. Porter*. Heavily damaged and subsequently scrapped: *Evans*, *Haggard*, *Leutze*, *Newcomb*, *Thatcher* Sold: *Hutchins*. Cancelled: *Percival*, *Watson*.

A/S Weapon Notes

Fixed hedgehogs have been installed on the port and starboard sides of the forward shelter deck below the bridge wings.

Helicopter Notes

Hazelwood, DD 531, has a helicopter flight deck in place o her torpedo tubes, after twin 40 mm. gun mountings, and "X" 5 inch gun, with small hangar on the port side abaft the funnels. She will be operating radio controlled ASW drone helicopters with release ASW weapons by remote control (see photograph on next page).

Photograph Notes

A large starboard quarter aerial view of *Boyd* appears in the 1957-58 (Diamond Jubilee) edition, a port quarter oblique aerial view of *Twining* in the 1957-58 to 1959-60 editions, and a port bow aerial view of *Ross* in the 1954-55 to 1957-58 editions. A starboard broadside view of *Daly* appears in the 1956-57 to 1960-61 editions. A large port oblique aerial view of *Rowe* appears in the 1957-58 to 1961-62 editions.

Experimental Notes

Fullam, DD 474 and *Howorth*, DD 592 (now sunk, see *Recent Disposals*), and *Killen*, DD 593, now in reserve, were trial ships in the 1958 atomic weapons tests.

Fullam was used as a test hull to determine the effects of underwater explosions, by Norfolk Naval Shipyard, 1960-62.

Conversion Notes

Boyd, *Cowell*, *Daly*, *Isherwood*, *Hailey*, *Mullany*, *Ross*, *Rowe*, *Smalley* and others have 4-5 inch (in "A," "B," "X" and "Y" positions), 6-3 inch (twin mount in "Q" position, and two twins amidships between funnels), 5-21 inch (quintuple bank abaft after funnel) and tripod mast. The forward bank of tubes were suppressed (3 inch now mounted in their place). See photo of *Rowe*. All active units rearmed, but over half the class are in reserve and mount their original armament.

Hazlewood has been converted with a flight deck and hangar to operate helicopters (see *Helicopter Notes* on previous page).

Appearance Notes

All Bethlehem-built ships of this class have flat-sided funnels.

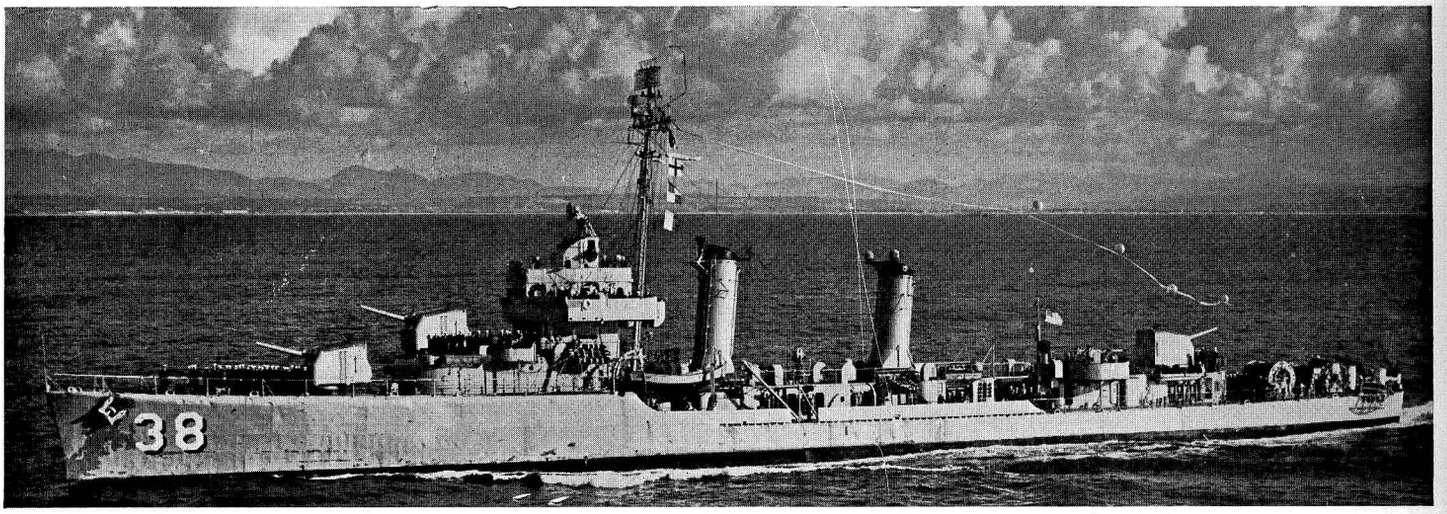
Transfer Notes

Of this class the *Anthony*, DD 515, was transferred to the West German Federal Republic in 1957. *Capps*, DD 550, and *David W. Taylor*, DD 551, were loaned to Spain in 1957 for five years (renewed in 1962). *Aulick*, DD 569, *Charette*, DD 581, and *Conner*, DD 582, were transferred to Greece in 1959. *Converse*, DD 509, was transferred to Spain in 1959. *Bennett*, DD 473, and *Guest*, DD 472, were transferred to Brazil in 1959. *Charles Ausburn*, DD 570, *Claxton*, DD 571, *Dyson*, DD 572, *Ringgold*, DD 500, and *Wadsworth*, DD 516, were transferred to the West German Federal Republic in 1958-60. *Hall*, DD 583, was transferred to Greece on 9 Feb. 1960. *Hailey*, DD 556, was transferred to Brazil in 1961. *Hale*, DD 642, was transferred to Columbia in 1961. *Heerman*, DD 532, and *Stembel*, DD 644, were transferred to Argentina on 1 Aug. 1961. In Sep. 1961 Congress approved the transfer of 16 more destroyers to friendly countries. *Isherwood*, DD 520, was transferred to Peru on 8 Oct. 1961. *Bradford*, DD 545, and *Brown*, DD 546, were transferred to Greece on 18 Oct. 1962.

Recent Disposals

Ammen, DD 527, was stricken from the Navy List after receiving major collision damage in 1960.

Howorth, DD 592, was stricken from the Navy List on 1 June, 1961 and was sunk by torpedoes off San Diego on 8 Mar. 1962. *Fullam*, DD 474, was sunk as a target ship by ships and aircraft on 7 July 1962 off Cape Henry, Virginia. *Killen*, DD 593 is expected to be disposed of similarly sometime in the near future.



THOMPSON

Added 1957, *Ted Stone*

Destroyers (DD)

35 "Gleaves" Class (including former Destroyer Minesweepers)

3 *Bath Iron Works Corpn.*	11 *Federal S.B. & D.D. Co.*
DD	**DD**
423 GLEAVES	**618 DAVISON**
424 NIBLACK	**439 EDISON**
437 WOOLSEY	**619 EDWARDS**
	440 ERICSSON
6 *Boston Navy Yard*	**455 HAMBLETON**
	621 JEFFERS
632 COWIE	**432 KEARNEY**
634 DORAN	**623 NELSON**
635 EARLE	**645 STEVENSON**
462 FITCH	**646 STOCKTON**
633 KNIGHT	**647 THORN**
441 WILKES	
3 *Charleston Navy Yard*	10 *Seattle-Tacoma S.B., Corpn., Seattle*
435 GRAYSON	
443 SWANSON	**493 CARMICK**
641 TILLMAN	**494 DOYLE**
	495 ENDICOTT
1 *Norfolk Navy Yard*	**497 FRANKFORD**
	496 McCOOK
638 HERNDON	**489 MERVINE**
	490 QUICK
1 *Philadelphia Navy Yard*	**626 SATTERLEE**
	627 THOMPSON
637 GHERARDI	**628 WELLES**

Displacement:	1,700 tons *standard* (2,580 tons *full load*)
Dimensions:	341 (*w.l.*), 348½ (*o.a.*) × 36 × 10 (*light*), 18 (*max.*) feet
Guns:	4—5 inch, 38 cal., 4—40 mm. Bofors AA., 4 to 7—20 mm. Oerlikon AA. (see nores)
Tubes:	5—21 inch
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 50,000 = 37·4 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	600 tons
Radius:	5,000 miles at 15 kts.
Complement:	250 (war)

General Notes

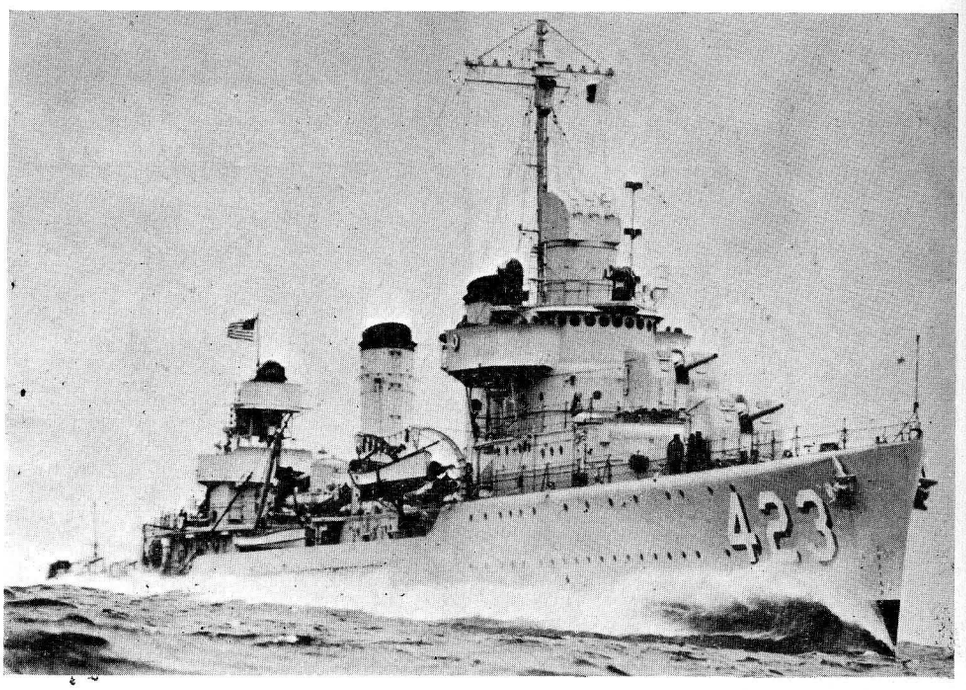
Butler, DMS 29, *Forrest*, DMS 24, and *Harding*, DMS 28, were scrapped. *Hobson*, DMS 26, sank in mid-Atlantic, 27 Apr. 1952, after collision with the aircraft carrier *Wasp* during a night exercise.

All the remaining ships of this class are out of commission in reserve.

Gunnery Notes

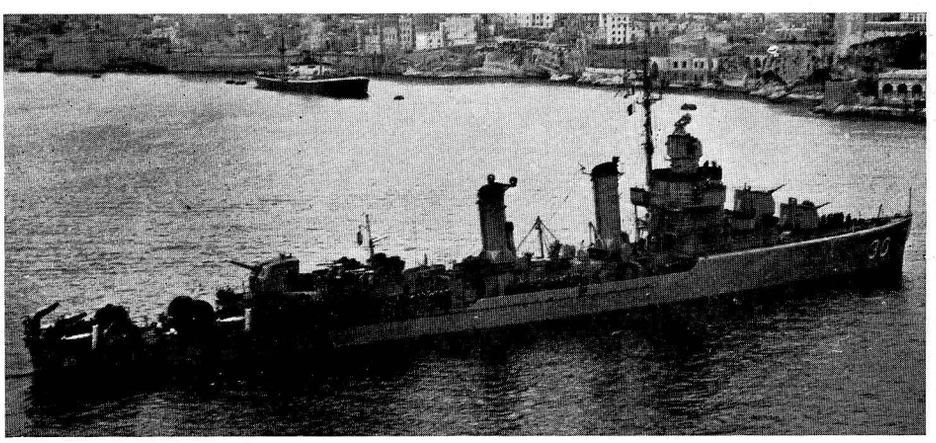
Armament of former Destroyer Minesweepers (DMS) comprises 3—5 inch, 38 cal.; 4—40 mm. AA.; 4 to 5—20 mm. AA.

Name	*Laid down*	*Launched*	*Completed*
Carmick	29 May 1941	8 Mar. 1942	28 Dec. 1942
Cowie	18 Mar. 1941	27 Sep. 1941	1 June 1943
Davison	26 Feb. 1942	19 July 1942	11 Sep. 1942
Doran	14 June 1941	10 Dec. 1941	4 Aug. 1942
Doyle	29 May 1941	17 Mar. 1942	27 Jan. 1943
Earle	14 June 1941	10 Dec. 1941	1 Sep. 1942
Edison	18 Mar. 1940	23 Nov. 1940	30 Jan. 1941
Edwards	26 Feb. 1942	19 July 1942	17 Sep. 1942
Endicott	1 May 1941	5 Apr. 1942	25 Feb. 1943
Ericsson	18 Mar. 1940	23 Nov. 1940	11 Mar. 1941
Fitch	6 Jan. 1941	14 June 1941	3 Feb. 1943
Frankford	5 June 1941	17 May 1942	31 Mar 1942
Gherardi	16 Sep. 1941	12 Feb. 1942	15 Sep. 1942
Gleaves	16 May 1938	9 Dec. 1939	May 1940
Grayson	17 July 1939	7 Aug. 1940	15 Apr. 1941
Hambleton	16 Dec. 1940	26 Sep. 1941	22 Dec. 1941
Herndon	26 Aug. 1941	5 Feb. 1942	20 Dec. 1942
Jeffers	25 Mar. 1942	26 Aug. 1942	4 Nov. 1942
Kearney	1 Mar. 1939	9 Mar. 1940	13 Sep. 1940
Knight	18 Mar. 1941	27 Sep. 1941	23 June 1942
McCook	1 May 1941	3 May 1942	15 Mar. 1943
Mervine	3 Nov. 1941	3 May 1942	16 June 1942
Nelson	7 May 1942	15 Sep. 1942	25 Nov. 1942
Niblack	8 Aug. 1938	18 May 1940	1 Aug. 1940
Quick	3 Nov 1941	3 May 1942	2 July 1942
Satterlee	10 Sep. 1941	17 July 1942	1 July 1943
Stevenson	23 July 1942	11 Nov 1942	14 Dec. 1942
Stockton	24 July 1942	11 Nov. 1942	9 Jan. 1943
Swanson	15 Nov 1939	2 Nov. 1940	15 July 1941
Thompson	22 Sep. 1941	10 Aug. 1942	10 July 1943
Thorn	15 Nov. 1942	28 Feb. 1943	31 Mar. 1943
Tillman	8 Sep. 1941	20 Dec. 1941	4 June 1942
Welles	27 Sep. 1941	7 Sep. 1942	16 Aug. 1943
Wilkes	1 Nov. 1939	31 May 1940	12 June 1941
Woolsey	9 Oct. 1939	12 Feb. 1940	7 May 1941



GLEAVES

ided 1962, *United States Navy, Official*



GHERARDI (showing sweeping gear)

Added 1959, *A. & J. Pavia*

Reclassification Notes

Doyle, *Jeffers*, *Hambleton* and *Rodman*, formerly rated as high speed minesweepers DMS 34, DMS 27, DMS 20 and DMS 21, respectively, were reclassified as destroyers on 15 Jan. 1955. *Carmick*, *Cowie*, *Davison*, *Doran*, *Earle*, *Endicott*, *Fitch*, *Gherardi*, *Knight*, *McCook*, *Mervine*, *Quick* and *Thompson*, formerly rated as Destroyer Minesweepers DMS 33, DMS 39, DMS 37, DMS 41, DMS 42, DMS 35, DMS 25, DMS 30, DMS, 40, DMS 36, DMS 31, DMS 32 and DMS 38, respectively, reverted to Destroyer (DD) status on 15 July 1955.

Appearance Notes

Seattle-built ships of this class have square-faced bridges with director on bridge instead of mounted on a pedestal.

Photograph Notes

Broadside silhouette photograph of *Fitch* (as DMS) and port bow aerial view of *Woolsey* (as DD) in the 1957-58 edition.

Second World War losses: *Aaron Ward*, *Beatty*, *Bristol*, *Corry*, *Emmons*, *Duncan*, *Glennon*, *Gwin*, *Ingraham*, *Maddox*, *Meredith*, *Monssen*, *Turner*. In addition, *Shubrick* was so badly damaged that she was scrapped.

Transfer Notes

Buchanan, DD 484, and *McCalla*, DD 488, were transferred to Turkey in 1949 and *Lansdowne*, DD 486, and *Lardner*, DD 487, in 1950. *Eberle*, DD 430 and *Ludlow*, DD 438, were transferred to Greece in 1951. *Nicholson*, DD 442, was transferred to Italy in 1951. *Ellyson* and *Macomb*, formerly rated as high speed minesweepers, DMS 19 and DMS 23, respectively, were reclassified as destroyers, DD 454 and DD 458, respectively, in May 1954, and lent to the Japanese Navy in Oct. 1954. *Rodman*, DD 456, was transferred to Nationalist China at Charleston, South Carolina, on 28 July 1955. *Plunkett*, DD 431, was transferred to Nationalist China on 16 Feb. 1959.

Recent Disposals

Livermore of this class (DD 429) was stricken from the Navy List on 19 July 1956, and expended in tests during 1957-58. *Baldwin*, DD 624, was stricken from the Navy List on 1 June 1961 (she went adrift on 15 Apr. 1961 while under tow, grounded off Montauk Point, Long Island, on 16 Apr. 1961, was salvaged on 4 June 1961 and was scuttled on 5 June 1961).

Destroyers (DD)
24 "Mayo" Class

6 Bethlehem (Quincy)

DD
598 BANCROFT
600 BOYLE
601 CHAMPLIN
422 MAYO
616 NIELDS
617 ORDRONAUX

7 Bethlehem (S. Francisco)

DD
605 CALDWELL
606 COGHLAN
607 FRAZIER
608 GANGSEVOORT
609 GILLESPIE
610 HOBBY
611 KALK

4 Bethlehem (S. Pedro

612 KENDRICK
613 LAUB
614 MACKENZIE
615 McLANAHAN

5 Bethlehem (Staten Island)

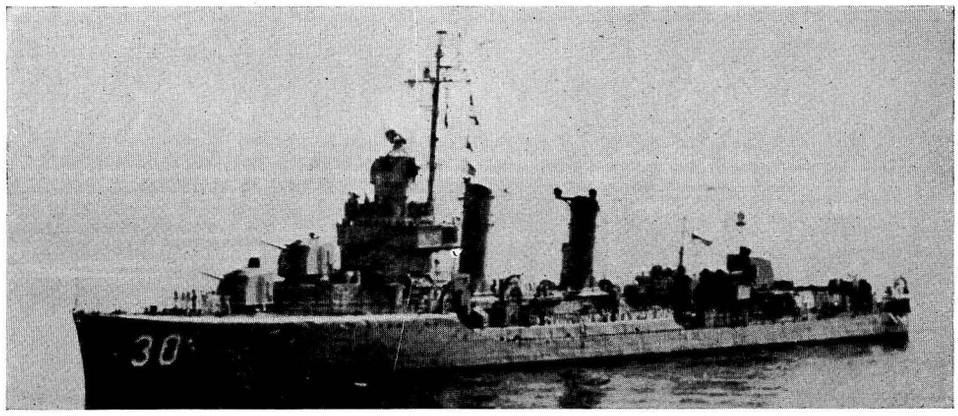
492 BAILEY
491 FARENHOLT
602 MEADE
603 MURPHY
604 PARKER

1 Boston Navy Yard

425 MADISON

1 Puget Sound Navy Yard

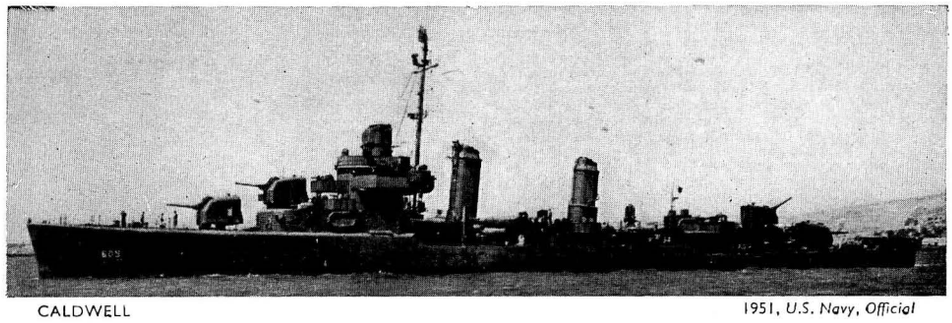
428 CHARLES F. HUGHES



GHERARDI (see previous page) *Added* 1956, *A. & J. Pavia*

Displacement:	1,620 tons *standard* (2,575 tons *full load*)
Dimensions:	348½ (*o.a.* × 35⅓ × 10 (*light*), 18 (*max.*) feet
Guns:	4—5 inch, 38 cal., 4—40 mm. AA.; 7—20 mm AA.
Tubes:	5—21 inch (quintupled), see notes.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 50,000 · 36·5 kts.
Boilers:	4 high pressure
Complement:	250

Name	*Laid down*	*Launched*	*Completed*
Bailey	29 Jan. 1941	19 Dec. 1941	11 May 1942
Bancroft	20 May 1941	31 Dec. 1941	30 Apr. 1942
Boyle	31 Dec. 1941	15 June 1942	15 Aug. 1942
Caldwell	24 Mar. 1941	15 Jan. 1942	10 June 1942
Champlin	31 Jan. 1942	25 July 1942	12 Sep. 1942
Charles F Hughes	3 Jan. 1939	16 May 1940	18 Oct. 1940
Coghlan	28 Mar. 1941	16 Feb. 1942	10 July 1942
Farenholt	11 Dec. 1940	19 Nov. 1941	2 Apr. 1942
Frazier	5 July 1941	17 Mar. 1942	30 July 1942
Gansevoort	16 June 1941	11 Apr 1942	25 Aug. 1942
Gillespie	16 June 1941	5 May 1942	16 Sep. 1942
Hobby	30 June 1941	4 June 1942	18 Nov. 1942
Kalk	30 June 1941	18 July 1942	17 Oct. 1942
Kendrick	1 May 1941	2 Apr. 1942	12 Sep 1942
Laub	1 May 1941	1 June 1942	24 Oct. 1942
McLanahan	29 May 1941	7 Sep. 1942	19 Dec. 1942
Mackenzie	1 May 1941	27 June 1942	21 Nov. 1942
Madison	19 Dec. 1938	20 Oct. 1939	6 Dec. 1940
Mayo	16 May 1938	26 Mar. 1940	18 Sep. 1940
Meade	25 Mar. 1941	15 Feb. 1942	22 June 1942
Murphy	19 May 1941	29 Apr. 1942	25 July 1942
Nields	15 June 1942	1 Oct. 1942	15 Jan. 1943
Ordronaux	25 July 1942	9 Nov. 1942	13 Feb. 1943
Parker	9 June 1941	12 May 1942	29 Aug. 1942



CALDWELL 1951, *U.S. Navy, Official*

General Notes
Built to the design of the Bethlehem Steel Co. War losses: *Barton*, *Laffey*, *Lonsdale*. All out of commission, in reserve.

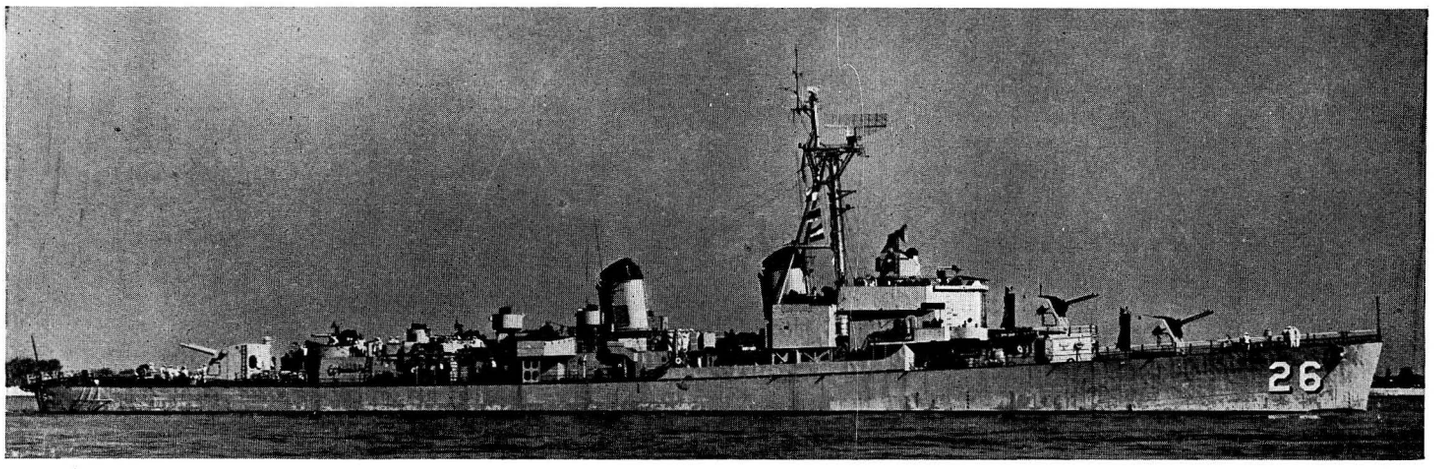
Appearance Notes
All ships of this class have flat-sided funnels. Reported some still have 10 torpedo tubes. Others have none.

Transfer Notes
Woodworth, DD 460, was transferred to Italy in 1951. *Benson*, DD 421, and *Hilary P. Jones*, DD 427 were transferred to Nationalist China in 1954 (announced Nov. 1953).

Conversion Notes
Two destroyers of this class were to have been converted to Corvettes (DDC) as prototypes for conversion of "Gleaves" and "Mayo" classes. Conversion plans provided for the removal of two boilers and the addition of new sonar installation.

Recent Disposals
The old destroyer *Winslow*, AG 127 (ex-DD 359), of the "Selfridge" class, modified for radar picket duty and experimental ordnance testing, was stricken from the list of Naval vessels in Jan. 1958.

DESTROYER MINELAYERS (DM) Ex-Destroyers



HARRY F. BAUER *Added* 1957, *U.S. Navy, Official*

10 "Smith" Class
(Modified "Allen M. Sumner" Class)

DM
27 ADAMS (ex-DD 739)
33 GWIN (ex-DD 772)
26 HARRY F. BAUER (ex-DD 738)
29 HENRY A. WILEY (ex-DD 749)
32 LINDSEY (ex-DD 771)

DM
23 ROBERT H. SMITH (ex-DD 735)
25 SHANNON (ex-DD 737)
30 SHEA (ex-DD 750)
24 THOMAS E. FRASER (ex-DD 736)
28 TOLMAN (ex-DD 740)

Displacement:	2,250 tons *standard* (3,375 tons *full load*)
Dimensions:	376½ × 41 × 12½ (*mean*) 19 (*max.*) feet
Guns:	6—5 inch, 38 cal., 12—40 mm. AA., 11—20 mm. AA. (All active units rearmed with 6—3 inch, 50 cal in place of 40 mm.)
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=34 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	350

General Notes
Modified Destroyers of "Allen M. Sumner" class. Later fitted with tripod masts. All out of commission, in reserve.

Building Notes
DM 23-28 built by Bath Iron Works, DM 29, 30 by Bethlehem Steel Co., Staten Island, N.Y., and DM 32-33 by Bethlehem Steel Co., San Pedro, California.

Reclassification Notes
Formerly known as Light Minelayers (DM). Reclassified as Destroyer Minelayers (DM) in Feb. 1955.

Photograph Notes
A port broadside view of *Gwin* appears in the 1956-57 to 1960-61 editions.

Name	*Launched*	*Completed*
Adams	23 July 1944	10 Oct. 1944
Gwin	9 Apr. 1944	30 Sep. 1944
Harry F. Bauer	9 July 1944	22 Sep. 1944
Henry A. Wiley	21 Apr. 1944	31 Aug. 1944
Lindsey	5 Mar. 1944	20 Aug. 1944
Robert H Smith	25 May 1944	4 Aug. 1944
Shannon	24 June 1944	8 Sep. 1944
Shea	20 May 1944	30 Sep. 1944
Thomas E. Fraser	10 June 1944	22 Aug. 1944
Tolman	13 Aug 1944	27 Oct. 1944

Disposal Notes
J. Wm. Ditter, DM 31, and *Aaron Ward*, DM 24, were scrapped

GUIDED MISSILE ESCORT SHIPS (DEG)

6 New Construction

3 *Puget Sound B.& D.D. Co.*

DEG 1
DEG 2
DEG 3

3 *F.Y. 1963 Program*

DEG 4
DEG 5
DEG 6

Displacement:	2,600 tons (3,400 tons *full load*)
Dimensions:	414½ (*o.a.*) × 44 × 18 (*max.*) feet
Guided weapons:	Anti-aircraft missiles. 1 Modified "Tartar" installation. Launcher aft.
Guns:	1—5 inch, 38 cal. forward (see *Notes*)
A/S weapons:	ASROC 8-tube launcher forward, 2 triple ASW torpedo launchers amidships, facilities for ASW helicopters
Machinery:	Geared steam turbines. 1 shaft. S.H.P.: 35,000.
Boilers:	Foster Wheeler newly developed supercharged

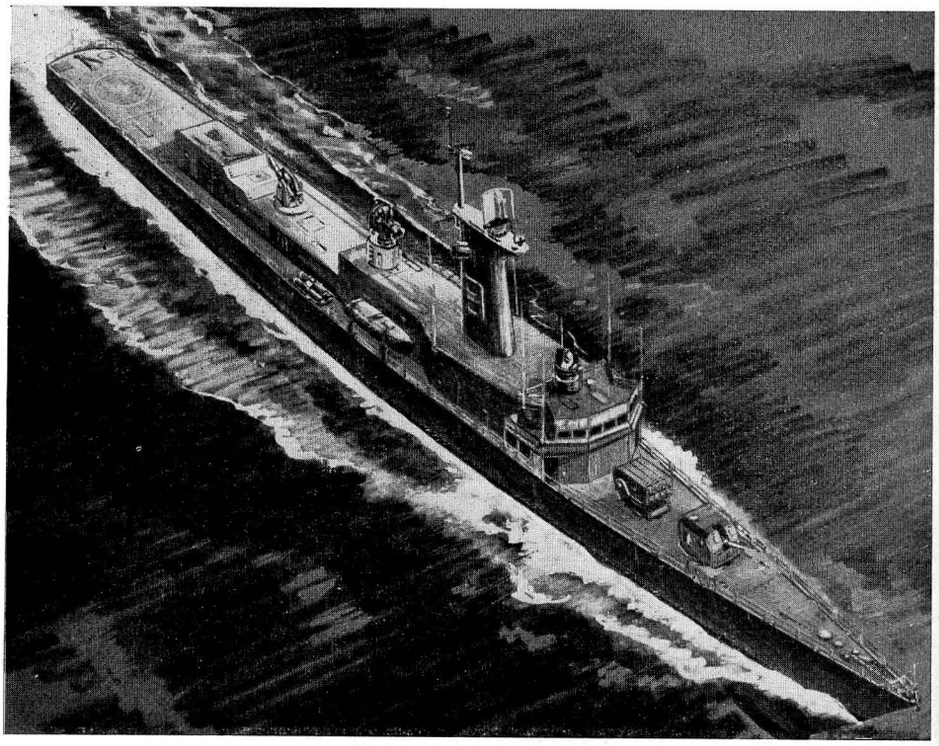
Notes

The first small ships of the destroyer escort type ever designed to carry guided missiles.

DEG 1, 2 and 3 were requested in the Fiscal Year 1962 shipbuilding program. New boilers permit greater speeds or increased cruising ranges without increasing the hull size of the ships. Same hull design and machinery plant as the latest three conventionally armed escort ships of the "DE 1040" class (see following). To be fitted with "macks" instead of masts and stacks.

Will be fitted with a modified "Tartar" guided missile installation, integral bow mounted sonar, DASH, ASROC launcher forward in No. 2 position, 5 inch, 38 cal. gun in No. 1 position, and missile launcher aft. To cost $28,500,000 each.

DEG 4, 5 and 6 were requested in the Fiscal Year 1963 new construction program.



DEG (1962 Shipbuilding Programme). First escort ships to carry guided missiles

1962, U.S.N. Official.

DESTROYER ESCORTS (DE)

Rated as **Escort Ships** (DE)

5 + 5 New Construction

3 *Avondale Shipyards, Westwego, La.*

DE 1043
DE 1044
DE 1045

2 *Bethlehem Steel, San Francisco*

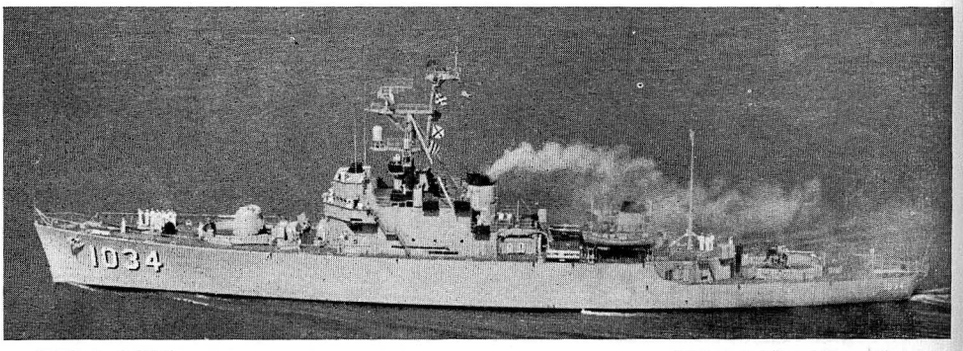
DE 1040
DE 1041

Displacement:	2,600 tons (3,403 tons *full load*)
Dimensions:	414½ (*o.a.*) × 44 × 18 (*max.*) feet
Guns:	2—5 inch, 38 cal. (1 forward, 1 aft)
A/S weapons:	ASROC, DASH, A/S torpedo launchers
Machinery:	Westinghouse geared steam turbines. 1 shaft. S.H.P.: 35,000
Boilers:	Newly developed pressure fuel

Notes

DE 1040 and DE 1041 are being built under the 1961 Program, and DE 1043, DE 1044 and DE 1045 under the 1962 Program. Five more were requested in the 1963 Program. To cost $26,700,000 each.

Especially designed for optimum performamces in locating and destroying submarines. They will carry the integral bow mounted long range sonar, and gyro stabilisers. Improved seaworthiness plus significantly increased anti-submarine warfare capabilities over previous DEs.



JOHN R PERRY

1961. United States Navy, Official

2 "Bronstein" Class

2 *Avondale Marine Ways, Inc., New Orleans, Louisiana*

DE 1037 BRONSTEIN

DE 1038 McCLOY

Displacement:	1,640 tons *light* (2,600 tons *full load*)
Dimensions:	371½ (*o.a.*) × 40½ × 18 (*max.*) feet
Guns:	3—3 inch, 50 cal., in gunhouses (twin forward, single aft)
A/S weapons:	Rocket launcher (ASROC), ASW torpedo launchers amidships
Aircraft:	Drone anti-submarine helicopter (DASH) carrying ASW torpedoes
Machinery:	Steam turbines
Boiler:	Foster-Wheeler supercharged

General Notes

An entirely new class. Ocean convoy (anti-submarine) type. Being built under the Fiscal Year 1960 Program. Laid down on 15 May and 15 Sep. 1961, and launched on 31 Mar. 1962 and 9 June 1962, respectively. To be fitted with towed sonar.

Numbers DE 1039, DE 1042 and DE 1046 were assigned to ships building under the off-shore Program for Portugal.

4 "Claud Jones" Class

4 *Avondale Marine Ways, Inc., New Orleans, Louisiana*

DE 1035 CHARLES BERRY
DE 1036 McMORRIS

DE 1033 CLAUD JONES
DE 1034 JOHN R. PERRY

Displacement:	1,315 tons *light*, 1,450 tons *standard* (1,750 tons *full load*)
Dimensions:	312 (*o.a.*) × 38½ × 9½ (*mean*), 14½ (*max.*) feet.
Guns:	2—3 inch, 50 cal. d.p. AA. with forward 3 inch in gunhouse
A/S weapons:	2 hedgehog launchers forward, 1 D.C.T.
Machinery:	4 Fairbanks-Morse diesels with reduction drive. 1 shaft.
Complement:	175

General Notes

Claud Jones and *John R. Perry* were provided under the 1956 fiscal appropriations and *Charles Berry* and *McMorris* under the 1957 program. The latter two, originally ordered from American S.B. Co., Lorain, Ohio, were completed by Avondale Marine Ways. They embody new features including a unique upper deck arrangement, aluminium masts and deck house. Cruising range of 7,000 miles.

Engineering Notes

These ships have diesel main propelling machinery plants, which cost less and have increased endurance, and two funnels instead of one as in the "Dealey" type.

Anti-submarine Notes

Charles Berry and *McMorris* are being fitted with Norwegian designed "Terne III" anti-sumarine missile launchers and system in 1961 at Long Beach Naval Shipyard.

Photograph Notes

A port quarter oblique aerial view of *Claud Jones* appears in the 1959-60 and 1960-61 editions.

Name	*Laid down*	*Launched*	*Completed*
Claud Jones	1 June 1957	27 May 1958	10 Feb. 1959
John R. Perry	1 Oct. 1957	29 July 1958	5 May 1959
Charles Berry	29 Oct. 1958	17 Mar. 1959	25 Nov. 1959
McMorris	5 Nov. 1958	26 May 1959	4 Mar. 1960

General Notes for DEs

Former Destroyer Escorts are now officially grouped under the generic heading of Patrol Ships with the specific classification of Escort Ships, but they approximate to the Frigate category in British and other navies.

Rated as **Escort Ships** (DE)

5 "Dealey" and 8 "Evans" Classes

3 *Bath Iron Works Corpn.*
1006 DEALEY
1014 CROMWELL
1015 HAMMERBERG

2 *Bethlehem-Pacific Coast Steel*
1025 BAUER
1026 HOOPER (*ex-Gatch*)

2 *Defoe S.B. Co., Bay City,*
1021 COURTNEY
1022 LESTER

4 *New York S.B. Corpn*
1027 JOHN WILLIS
1028 VAN VOORHIS
1029 HARTLEY
1030 JOSEPH K. TAUSSIG

2 *Puget Sound B. & D. Co.*
1023 EVANS
1024 BRIDGET

Displacement:	1,270 to 1,280 tons *light*, 1,450 tons *standard* (1,914 tons *full load*)
Dimensions:	314½ (*o.a.*) × 36¾ × 9 7/12 to 9¼ (*mean*) 13¾ (*max.*) feet
Guns:	4—3 inch, 50 cal., d.p. AA. (2 twin)
A/S weapons:	1 Mark 108 Launcher, Weapon Able (except *Dealey* which has 2 British Squids), 1 D.C.T., 8 D.C. Projectors, 2 fixed T.T.
Machinery:	De Laval geared turbine. 1 shaft. S.H.P.: 20,000=25 kts.
Boilers:	2 Foster Wheeler
Oil fuel:	400 tons
Radius:	4,500 miles at 15 kts.
Complement:	*Dealey* class 149 (9 officers, 140 men), *Evans* class 170 (11 officers, 159 men)

General Notes

Dealey was the prototype for new and modern anti-submarine vessels. Lavishly equipped with electronic gear. Designed specifically for fast convoy work and constructed in such a manner that in the event of war similar DEs could be built rapidly. Single engineroom. Twin rudders. Single screw, all aluminium superstructure saving 40 per cent in weight.

Gunnery Notes

Dealey originally had an open twin 3 inch, 50 cal. mounting forward. All ships now have forward 3 inch mount in a gunhouse.

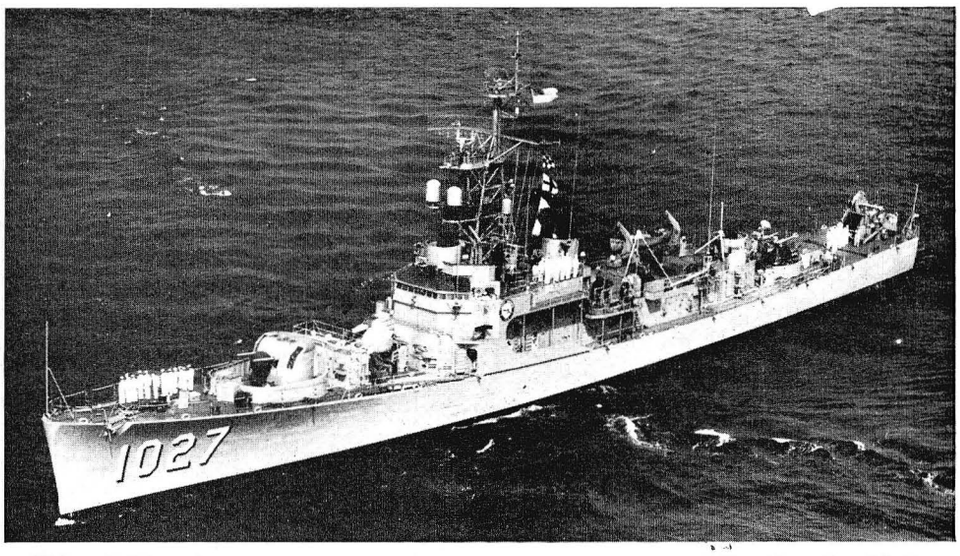
Photograph Notes

Large port bow aerial view of *Hooper* and broadside view of *Dealey* in the 1958-59 edition. Port bow view of *Hammerberg* in the 1957-58 to 1959-60 editions. Starboard broadside view of *Bauer* in the 1958-59 to 1960-61 editions.

Class Notes

The first five ships are known as the "Dealey" class and the later eight as the "Evans" class.

Name	*Laid down*	*Launched*	*Completed*
Cromwell	3 Aug. 1953	4 June 1954	24 Nov. 1954
Dealey	15 Oct. 1952	8 Nov. 1953	3 June 1954
Hammerberg	12 Nov 1953	20 Aug. 1954	28 Feb. 1955
Courtney	2 Sep. 1954	2 Nov. 1955	31 Aug. 1956
Lester	2 Sep. 1954	5 Jan. 1956	14 June 1957
Evans	8 Apr. 1955	14 Sep. 1955	14 June 1957
John Willis	5 July 1955	4 Feb. 1956	21 Feb. 1957
Van Voorhis	29 Aug. 1955	28 July 1956	15 Apr. 1957
Bridget	19 Sep. 1955	25 Apr. 1956	24 Oct. 1957
Hartley	31 Oct. 1955	24 Nov. 1956	30 July 1957
Hooper	4 Jan. 1956	1 Aug. 1957	16 Apr. 1958
J. K. Taussig	3 Jan. 1956	3 Jan. 1957	10 Sep. 1957
Bauer	1 Dec. 1956	4 June 1957	22 Nov. 1957



JOHN WILLIS (variable depth sonar gear on stern) 1960, *United States Navy, Official*



HOOPER 1959, *U S. Navy, Official*

Rated as

Escort Ships, Radar Picket (DER)

2 Converted "John C. Butler" Class

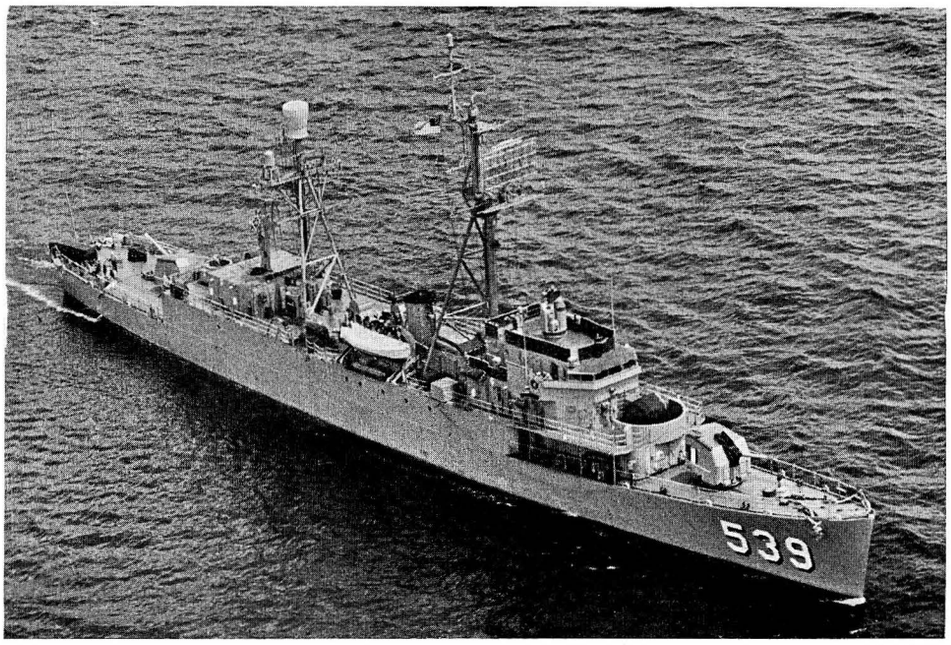
DER 540 VANDIVIER
DER 539 WAGNER

Name:	*Vandivier*	*Wagner*
Builders:	Boston Naval Shipyard	Boston Naval Shipyard
Laid down:	8 Nov. 1943	8 Nov. 1943
Launched:	27 Dec. 1943	27 Dec. 1943
Completed:	1 Dec. 1955	31 Dec. 1955

Displacement:	1,260 tons *light*, 1,745 tons *standard* (2,100 tons *full load*)
Dimensions:	306 (*o.a.*) × 36¾ × 8 5/8 (*mean*), 11 (*max.*) feet
Guns:	2—5 inch 38 cal. d.p.
A/S weapons:	Hedgehogs and 2 torpedo launchers
Machinery:	Westinghouse geared turbines. 2 shafts. S.H.P.: 12,000=24 kts.
Boilers:	2 Babcock & Wilcox water tube
Oil fuel:	340 tons
Radius:	5,000 miles at 15 kts.
Complement:	137

General Notes

The completion of these two destroyer escorts (DEs) launched in 1943, was suspended in August 1946. Under the 1954 fiscal year new construction and modernisation program they were completed and converted to Radar Picket Escort Vessels (DERs) at Boston Naval Shipyard. Commissioned 11 Oct. 1955 and 22 Nov. 1955, respectively. Both decommissioned in 1960.



WAGNER 1957, *U.S. Navy, Official*

Gunnery Notes

The six 20 mm AA. Oerlikon guns formerly mounted nave been removed.

Engineering Notes

These two ships are the only steam driven DERs among all the Radar Picket Destroyer Escorts.

Rated as **Escort Ships** (DE)

20 "Rudderow" Class

11 *Bethlehem-Hingham*

DE

584 CHARLES J. KIMMEL
585 DANIEL A. JOY
583 GEORGE A. JOHNSON
580 LESLIE L. B. KNOX
586 LOUGH
581 McNULTY
582 METIVIER
588 PEIFFER
579 RILEY
587 THOMAS F. NICKEL
589 TINSMAN

1 *Charleston Navy Yard*

231 HODGES

3 *Bethlehem, Quincy*

DE

685 COATES
684 DE LONG
686 EUGENE E. ELMORE

3 *Defoe Co., Bay City*

706 HOLT
707 JOBB
708 PARLE

2 *Philadelphia Navy Yard*

225 DAY
224 RUDDEROW

Displacement:	1,450 tons *standard* (2,230 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅜ × 14 (*max.*) feet
Guns:	2—5 inch, 38 cal., 2—40 mm, 6—20 mm. (*De Long* 10—40 mm.)
A/S weapons:	D.C.T.
Machinery:	General Electric geared turbines Turbo-electric propulsion. 2 shafts S.H.P.: 12,000=24 kts.
Boilers:	2 water tube. Foster-Wheeler in DE 579-589, Babcock & Wilcox in DE 224, 225, Combustion Engineering in remainder
Oil fuel:	378 tons
Radius:	5,000 miles at 15 kts.
Complement:	220 (war)

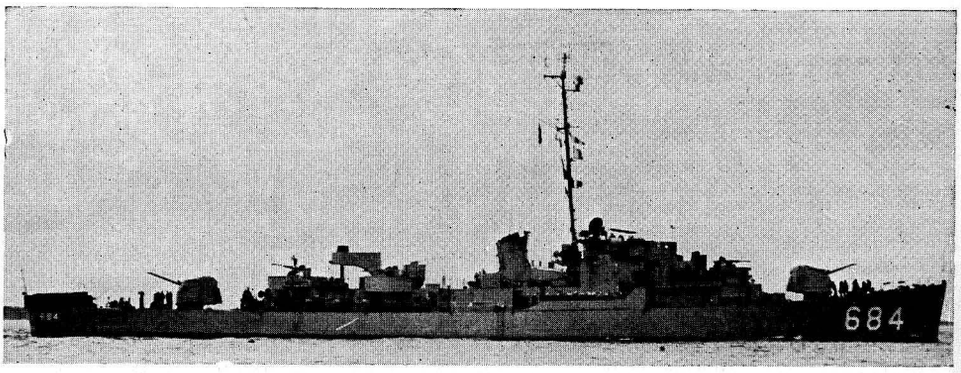
Name	*Launched*	*Completed*
Charles H. Kimmel	15 Jan. 1944	20 Apr. 1944
Coates	9 Dec. 1943	24 Jan. 1944
Daniel A. Joy	15 Jan. 1944	28 Apr. 1943
De Long	23 Nov. 1943	31 Dec. 1944
Day	14 Oct. 1943	10 June 1944
Eugene E. Elmore	23 Dec. 1943	4 Feb. 1944
George A. Johnson	21 Jan. 1944	15 Apr. 1944
Hodges	9 Dec. 1943	27 May 1944
Holt	15 Dec. 1943	9 June 1944
Jobb	4 Mar. 1944	4 July 1944
Leslie L. B. Knox	8 Jan. 1944	22 Mar. 1944
Lough	22 Jan. 1944	2 May 1944
McNulty	8 Jan. 1944	31 Mar. 1944
Metivier	12 Jan. 1944	7 Apr. 1944
Parle	25 Mar. 1944	29 July 1944
Peiffer	26 Jan. 1944	15 June 1944
Riley	29 Dec. 1943	13 Mar. 1944
Rudderow	14 Oct. 1943	15 May 1944
Thomas F. Nickel	22 Jan. 1944	9 June 1944
Tinsman	29 Jan. 1944	26 June 1944

Notes

62 ships of this type were built. Originally rated as Destroyer Escorts (DE) but now grouped under Patrol Ships (Escort Ships). The original 3—21 inch torpedo tubes were removed. *Chaffee* (DE 230) scrapped. DE 226-229, 232-237, 590-606, 687-692. 710-722 were converted into Fast Transports (APD).



PARLE — 1962, *courtesy Mr. W. H. Davis*



DE LONG Broadside silhouette — 1955, *courtesy B. L. Devenish-Meares, Esq.*

Photograph Notes

A larger, port bow view of *De Long* appears in the 1957-58 to 1961-62 editions.

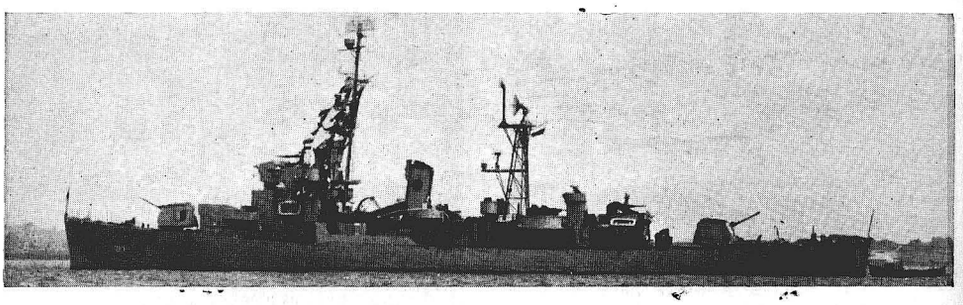
Rated as **Escort Ships** (DE, ex-DER)

7 Converted "Buckley" Class

DE

577 ALEXANDER J. LUKE
51 BUCKLEY
57 FOGG
153 REUBEN JAMES
578 ROBERT I. PAYNE
223 SPANGENBURG
213 WILLIAM T. POWELL

Displacement:	1,400 tons *standard* (2,170 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅜ × 9½ (*mean*), 14 (*max.*) feet
Guns:	2—5 inch, 38 cal. d.p., 8—40 mm. AA.
A/S weapons:	D.C.T.
Machinery:	General Electric turbines with electric drive. 2 shafts. S.H.P.: 12,000 =24 kts.
Boilers:	2 water tube. Babcock & Wilcox in DE 153 and 223, Combustion Engineering in DE 213, Foster Wheeler in remainder
Oil fuel.	340 tons
Radius:	5,000 miles at 15 kts.
Complement:	220



WILLIAM T. POWELL — 1952, *Ted Stone*

Name	*Builders*	*Launched*	*Completed*
Alexander J. Luke	Bethlehem-Hingham	28 Dec. 1943	19 Feb 1944
Buckley	Bethlehem-Hingham	9 Jan. 1943	30 Apr. 1944
Fogg	Bethlehem-Hingham	20 Mar. 1943	7 July 1943
Reuben James	Norfolk Naval Shipyard	6 Feb. 1943	1 Apr. 1943
Robert I. Payne	Bethlehem-Hingham	30 Dec. 1943	28 Feb. 1944
Spangenburg	Philadelphia Naval Shipyard	3 July 1943	15 Apr. 1944
William T. Powell	Charleston Naval Shipyard	27 Nov 1943	28 Mar 1944

Notes

Built as Destroyer Escorts (DE) with 3—3 inch guns. Subsequently grouped under generic heading of Patrol Vessels with the sub-classification: Escort Vessels. Converted and reclassified as "Escort Vessels, Radar Picket" (DER) in 1949-50, but in Oct. 1954 they were again reclassified as Escort Vessels (DE) and placed in reserve, out of commisison, and on 25 Aug. 1960 they were reclassified as Escort ships (DE).

Rated as **Escort Ships** (DE)

75 "John C. Butler" Class

8 Boston Naval Shipyard

DE
536 BIVIN
531 EDWARD H. ALLEN
533 HOWARD F. CLARK
535 LEWIS A/S
538 OSBERG
537 RIZZI
534 SILVERSTEIN
532 TWEEDY A/S

20 Brown S.B. Co., Houston

421 CHESTER T. O'BRIEN
405 DENNIS
422 DOUGLAS A. MUNRO
423 DUFILHO
406 EDMONDS
424 HAAS
410 JACK MILLER
409 LA PRADE
415 LAWRENCE C. TAYLOR
420 LELAND E. THOMAS
414 LE RAY WILSON
416 MELVIN R. NAWMAN
417 OLIVER MITCHELL
403 RICHARD M. ROWELL
402 RICHARD S. BULL
419 ROBERT F. KELLER
411 STAFFORD
408 STRAUS
418 TABBERER
412 WALTER C. WANN

33 Consolidated Steel Corpn., Orange

343 ABERCROMBIE
366 ALVIN C. COCKRELL
368 CECIL J. DOYLE
353 DOYLE C. BARNES
346 EDWIN A. HOWARD
367 FRENCH
349 GENTRY
357 GEORGE E. DAVIS
355 JACCARD

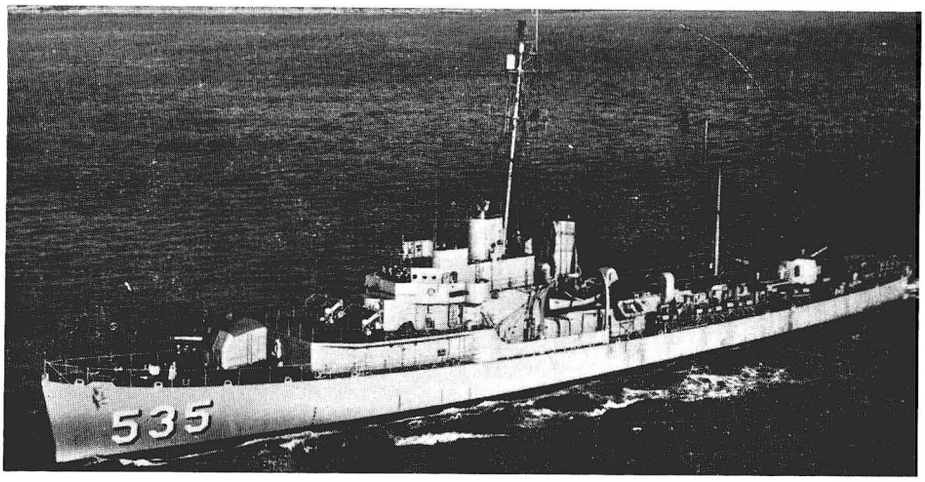
DE
347 JESSE RUTHERFORD
339 JOHN C. BUTLER
370 JOHN L. WILLIAMSON
360 JOHNNIE HUTCHINS
354 KENNETH M. WILLETT
348 KEY
356 LLOYD E. ACREE
365 McGINTY
358 MACK
351 MAURICE J. MANUEL
352 NAIFEH
340 O FLAHERTY
363 PRATT
371 PRESLEY
341 RAYMOND
342 RICHARD W. SUESENS
345 ROBERT BRAZIER
362 ROLF
364 ROMBACH
369 THADDEUS PARKER
350 TRAW
361 WALTON
372 WILLIAMS
359 WOODSON

14 Federal S.B. & D.D. Co., Port Newark

447 ALBERT T. HARRIS
446 CHARLES E. BRANNON
439 CONKLIN
438 CORBESIER
448 CROSS
508 GILLIGAN
444 GOSS
445 GRADY
449 HANNA
510 HEYLIGER
443 KENDALL C. CAMPBELL
450 JOSEPH E. CONNOLLY
442 ULVERT M. MOORE
441 WILLIAM SEIVERLING



ALVIN C. COCKRELL (2 hedgehogs) 1959, *U.S. Navy, Official*



LEWIS (A/S) 1959, *Mariners Museum, Newport News*

Displacement:	1,350 tons *standard* (2,100 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅜ × 9½ (*mean*), 11 (*max.*) feet
Guns:	2—5 inch, 38 cal., 2—40 mm. AA. 6—20 mm. AA.
A/S weapons:	D.C.T.
Machinery:	Westinghouse or General Electric geared turbines. 2 shafts. S.H.P.: 12,000=24 kts.
Boilers:	2 water tube (Combustion Engineering or Babcock & Wilcox)
Oil fuel:	340 tons
Radius:	5,000 miles at 15 kts.
Complement:	220 (war)

General Notes

Originally rated as Destroyer Escorts (DE). The original 3—21 inch torpedo tubes were removed.

For launching and completion dates of all the ships of this class see table below.

Class Notes

Completion of *Vandivier* and *Wagner* of this class was suspended in Aug. 1946; but under the 1954 fiscal year conversion program these two ships were completed as radar picket escort vessels (DER) at Boston Naval Shipyard (see previous page).

Anti-Submarine Notes

Alvin C. Cockrell has two hedgehogs. Two ships marked A/S, *Lewis* and *Tweedy*, were converted to anti-submarine escorts and classified as DE (A/S).

Photograph Notes

Port oblique aerial view of *Maurice J. Manuel* (with mainmast) and port broadside surface view of *Rizzi* in the 1954-55 to 1957-58 editions. Photograph of *Raymond* in in the 1957-58 and 1958-59 editions. Port bow surface view of *Tweedy* (A/S) in the 1957-58 to 1961-62 editions.

Transfer Notes

Formoe, DE 509, and *McCoy Reynolds*, DE 440, were loaned to Portugal on 7 Feb. 1957 for five years, and the loan was renewed in 1962 for the same term.

Disposals

Oswald A. Powers, DE 542, and *Sheehan*, DE 541, have been scrapped.

Second World War losses: *Eversole*, *Oberrender*, *Samuel B. Roberts*, and *Shelton*.

Name	*Launched*	*Completed*
Abercrombie	14 Jan. 1944	1 May 1944
Albert T. Harris	16 Apr. 1944	29 Nov. 1944
Alvin C. Cockrell	8 Aug. 1944	7 Oct. 1944
Bivin	7 Dec 1943	31 Oct. 1944
Cecil J. Doyle	1 July 1944	16 Oct. 1944
Charles E. Brannon	23 Apr. 1944	1 Nov. 1944
Chester T. O'Brien	29 Feb. 1944	3 July 1944
Conklin	13 Feb. 1944	21 Apr. 1944
Corbesier	13 Feb. 1944	31 Mar. 1944
Cross	4 July 1944	8 Jan. 1945
Dennis	4 Dec. 1943	20 Mar. 1944
Douglas A. Munro	8 Mar. 1944	11 July 1945
Doyle C. Barnes	4 Mar. 1944	13 July 1944
Dufilho	9 Mar. 1944	21 July 1944
Edmonds	17 Dec. 1943	3 Apr. 1944
Edward H. Allen	17 Oct. 1943	16 Dec. 1943
Edwin A. Howard	25 Jan. 1944	25 May 1944
French	17 June 1944	9 Oct. 1944
Gentry	15 Feb. 1944	14 June 1944
George E. Davis	8 Apr. 1944	11 Aug. 1944
Gilligan	22 Feb. 1944	12 May 1944
Goss	19 Mar. 1944	26 Aug. 1944
Grady	2 Apr. 1944	11 Sep. 1944
Haas	20 Mar. 1944	2 Aug. 1944
Hanna	4 July 1944	27 Jan. 1945
Howard F. Clark	8 Nov. 1943	25 May 1944
Heyliger	6 Aug. 1944	24 Mar. 1945
Jaccard	18 Mar. 1944	26 July 1944
Jack Miller	10 Jan. 1944	13 Apr. 1944
Jesse Rutherford	29 Jan. 1944	31 May 1944
John C. Butler	11 Dec. 1943	31 Mar. 1944
John L. Williamson	29 Aug. 1944	31 Oct. 1944
Johnnie Hutchins	2 May 1944	28 Aug. 1944
Joseph E. Connolly	6 Aug. 1944	28 Feb. 1945
Kendall C. Campbell	19 Mar. 1944	31 July 1944
Kenneth M. Willett	7 May 1944	19 July 1944
Key	12 Feb. 1944	5 June 1944
La Prade	31 Dec. 1943	20 Apr. 1944
Lawrence C. Taylor	29 Jan. 1944	13 May 1944
Le Ray Wilson	28 Jan. 1944	10 May 1944
Leland E. Thomas	28 Feb. 1944	19 June 1944
Lewis	7 Dec. 1943	5 Sep. 1944
Lloyd E. Acree	21 Mar. 1944	1 Aug. 1944
Mack	11 Apr. 1944	16 Aug. 1944
Maurice J. Manuel	19 Feb. 1944	30 June 1944
Melvin R. Nawman	7 Feb. 1944	16 May 1944
McGinty	5 Aug. 1944	25 Sep. 1944
Naifeh	29 Feb. 1944	4 July 1944
O'Flaherty	14 Dec. 1943	8 Apr. 1944
Oliver Mitchell	8 Feb. 1944	14 June 1944
Osberg	7 Dec. 1943	17 Dec. 1945
Pratt	1 June 1944	18 Sep. 1944
Presley	19 Aug. 1944	7 Nov. 1944
Raymond	8 Jan. 1944	15 Apr. 1944
Richard M. Rowell	17 Nov. 1943	9 Mar. 1944
Richard S. Bull	16 Nov. 1943	26 Feb. 1945
Richard W. Suesens	11 Jan. 1944	26 Apr. 1944
Rizzi	7 Dec. 1943	30 June 1944
Robert Brazier	22 Jan. 1944	18 May 1944
Robert F. Keller	11 Feb. 1944	17 June 1944
Rolf	23 May 1944	7 Sep. 1944
Rombach	6 June 1944	20 Sep. 1944
Silverstein	8 Nov. 1943	14 July 1944
Stafford	11 Jan. 1944	19 Apr. 1944
Straus	30 Dec. 1943	6 Apr. 1944
Tabberer	18 Feb. 1944	23 May 1944
Thaddeus Parker	26 Aug. 1944	25 Oct. 1944
Traw	14 Feb. 1944	20 June 1944
Tweedy	7 Oct. 1943	12 Feb. 1944
Ulvert M. Moore	7 Mar. 1944	18 July 1944
Walter C. Wann	19 Jan. 1944	2 May 1944
Walton	20 May 1944	4 Sep. 1944
William Seiverling	7 Mar. 1944	1 June 1944
Williams	22 Aug. 1944	11 Nov. 1944
Woodson	29 Apr. 1944	24 Aug. 1944

Rated as **Escort Ships** (DE)

50 "Buckley" Class

2 *Bethlehem-Hingham*

DE
575 AHRENS
59 FOSS

5 *Bethlehem, Quincy*

681 GILLETTE
679 GREENWOOD
678 HARMON
683 HENRY R. KENYON
680 LOESER

9 *Bethlehem, S. Francisco*

643 DAMON M. CUMMINGS
640 FIEBERLING
633 FOREMAN
639 GENDREAU
642 PAUL G. BAKER
644 VAMMEN A/S
634 WHITEHURST
641 WILLIAM C. COLE
638 WILLMARTH

6 *Charleston Navy Yard*

202 EICHENBERGER
201 JAMES E. CRAIG
199 MANNING
200 NEUNDORF
210 OTTER
203 THOMASON

8 *Consolidated Steel Corpn., Orange*

790 BORUM
795 GUNASON

DE
800 JACK W. WILKE
796 MAJOR
791 MALOY E
799 SCROGGINS
798 VARIAN
797 WEEDEN

10 *Defoe Co., Bay City, Mich.*

704 CRONIN
700 CURRIER
702 EARL V. JOHNSON
705 FRYBARGER
697 GEORGE
703 HOLTON
699 MARSH
701 OSMUS
698 RABY
696 SPANGLER

3 *Dravo Corpn., Pittsburgh*

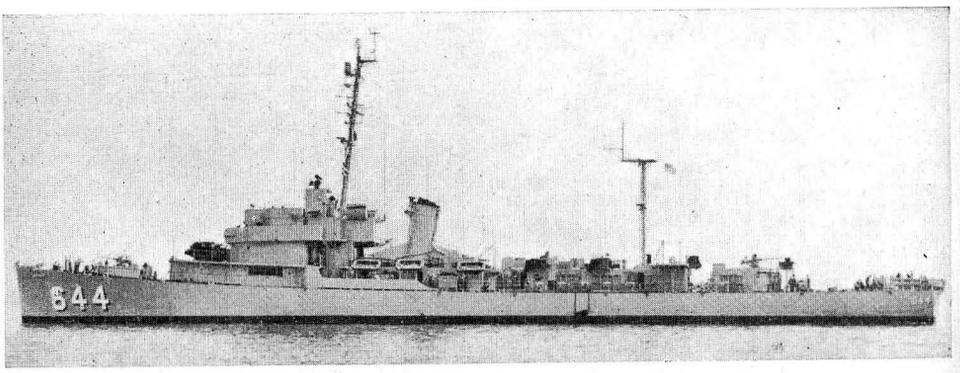
666 DURIK
665 JENKS
667 WISEMAN

1 *Norfolk Navy Yard*

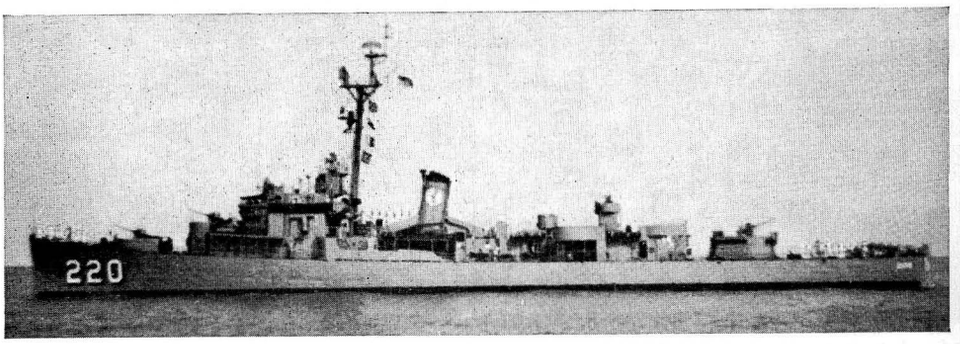
198 LOVELACE

6 *Philadelphia Navy Yard*

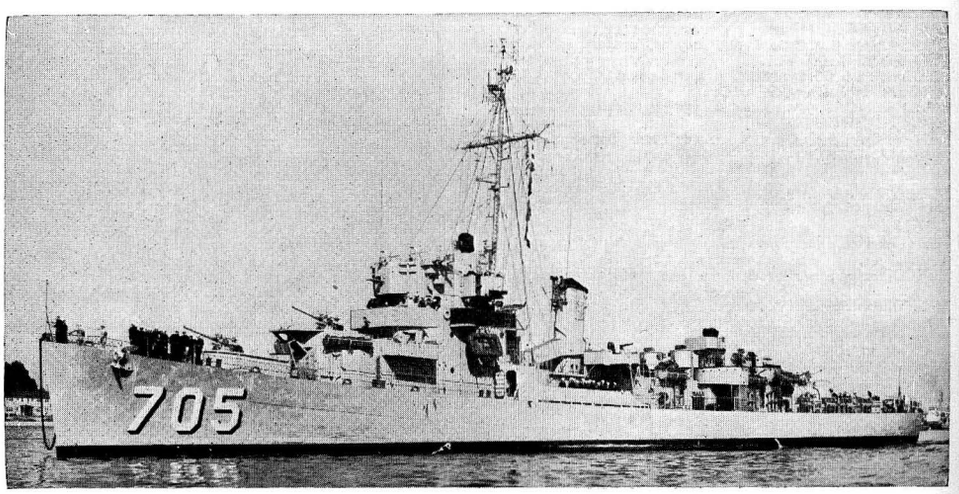
217 COOLBAUGH
218 DARBY
222 FOWLER
220 FRANCIS M. ROBINSON
219 J. DOUGLAS BLACKWOOD
214 SCOTT



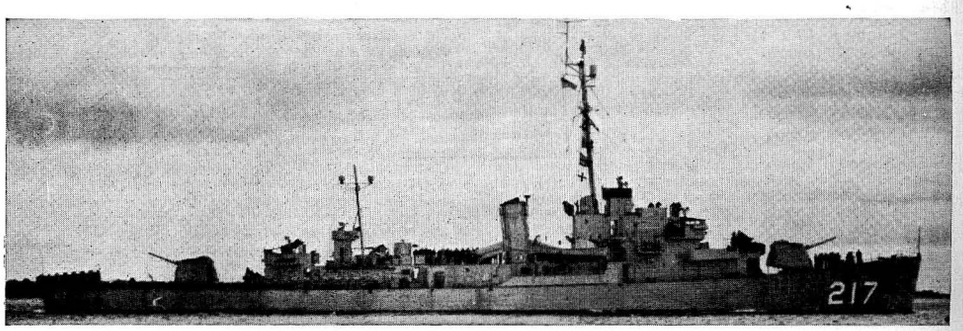
VAMMEN (A/S) with mainmast — 1962, *courtesy Mr. W. H. Davis*



FRANCIS M. ROBINSON (3-inch gunned type) — 1960, *courtesy Mr. James Flynn*



FRYBARGER (3-3 inch) — *Added* 1957, *Ted Stone*



COOLBAUGH (diminutive mainmast) 5-inch gunned type — 1955, *courtesy B. L. Devenish-Mears, Esq.*

Displacement:	1,400 tons *standard* (2,170 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅝ × 10⅜ (*mean*) 14 (*max.*) feet
Guns:	3—3inch, 50 cal., 8—40 mm. AA., 4—20 mm. AA. (*Coolbaugh, Darby, J. Douglas Blackwood, Loeser, Raby*, 2—5 inch, 38 cal. d.p., 6 or 10—40 mm. AA.)—see *Gunnery Notes*
A/S weapons:	D.C.T.
Machinery:	General Electric Turbines with electric drive. 2 shafts. S.H.P.: 12,000 =24 kts.
Boilers:	2 water tube (Foster-Wheeler, Babcock & Wilcox, or Combustion Engineering)
Oil fuel:	340 tons
Radius:	5,000 miles at 15 kts.
Complement:	220 (war)

Name	*Launched*	*Completed*
Ahrens	21 Dec. 1943	12 Feb. 1944
Borum	14 Aug. 1943	30 Nov. 1943
Coolbaugh	29 May 1943	15 Oct. 1943
Cronin	5 Jan. 1944	4 May 1944
Currier	14 Oct. 1943	1 Feb. 1944
Damon M. Cummings	18 Apr. 1944	29 June 1944
Darby	29 May 1943	15 Nov. 1943
Durik	9 Oct. 1943	24 Mar. 1944
Earl V. Johnson	12 Jan. 1944	18 Mar. 1944
Eichenberger	22 July 1943	17 Nov. 1943
Fieberling	2 Mar. 1944	11 Apr. 1944
Foreman	1 Aug. 1943	22 Oct. 1943
Foss	10 Apr. 1943	23 July 1943
Fowler	3 July 1943	15 Mar. 1944
Francis M. Robinson	29 May 1943	15 Jan. 1944
Frybarger	25 Jan. 1944	18 May 1944
Gendreau	12 Dec. 1943	17 Mar. 1944
George	16 Feb. 1943	20 Nov. 1943
Gillette	25 Sep. 1943	27 Oct. 1943
Greenwood	21 Aug. 1943	25 Sep 1943
Gunason	17 Oct. 1943	1 Feb 1944
Harmon	25 July 1943	31 Aug 1943
Henry R. Kenyon	30 Oct. 1943	30 Nov 1943
Holton	15 Dec. 1943	1 May 1944
Jack W. Wilke	18 Dec. 1943	7 Mar. 1944
James E. Craig	22 July 1943	1 Nov. 1943
J. Douglas Blackwood	29 May 1943	15 Jan. 1943
Jenks	11 Sep. 1943	19 Jan. 1944
Loeser	11 Sep. 1943	10 Oct. 1943
Lovelace	4 July 1943	7 Nov. 1943
Major	23 Oct. 1943	12 Feb. 1944
Maloy	18 Aug. 1943	13 Dec. 1943
Manning	1 Sep. 1943	1 Oct. 1943
Marsh	29 Jan. 1943	12 Jan. 1944
Neundorf	18 Sep. 1943	18 Oct. 1943
Osmus	4 Nov. 1943	23 Feb. 1944
Otter	23 Oct. 1943	21 Feb. 1944
Paul G. Baker	12 Mar. 1944	25 May 1944
Raby	4 Sep. 1943	7 Dec. 1943
Scott	3 Apr. 1943	20 July 1943
Scroggins	6 Nov. 1943	30 Mar. 1944
Spangler	15 July 1943	31 Oct. 1943
Thomason	24 Aug. 1943	10 Dec. 1943
Vammen	21 May 1944	27 July 1944
Varian	6 Nov. 1943	29 Feb. 1944
Weeden	27 Oct. 1943	19 Feb. 1944
Whitehurst	5 Sep. 1943	19 Nov. 1943
William C Cole	28 Dec 1943	12 May 1944
Willmarth	21 Nov. 1943	13 Mar. 1944
Wiseman	6 Nov. 1943	4 Apr. 1944

General Notes

46 ships of this class, originally rated as Destroyer Escorts (DE), were transferred under Lend-Lease scheme to Royal Navy in which they served as frigates. Six of these were lost, and the remainder were returned to U.S.A. for scrapping. Fifty more of "Buckley" class were adapted for duty as Fast Transports or for subsidiary purposes. *Foss, Marsh, Wiseman* and *Whitehurst* rigged as power supply ships have two large reels for power cables amidships. *Fechteler* and *Underhill* were lost in the Second World War. *Solar* was destroyed by internal explosion on 30 Apr. 1946.

Engineering Notes

All DEs have alternate engine and boiler rooms. What looks like a central uptake is really only a cylindrical support for the dual stack trunk.

Class Notes

Cronin, Frybarger and *Raby* were redesignated DEC (escort vessels, control) on reassignment to amphibious forces, but *Cronin* and *Raby* were decommissioned to Reserve Fleet in June 1953, and *Frybarger* was placed in the Reserve Fleet in commission in June 1954; and all three of these DECs were reclassified as DEs on 27 Dec. 1957.

Experimental Notes

A/S *Vammen* converted to DE (A/S), i.e., for anti-submarine warfare. *Maloy* is rated as EDE (experimental destroyer escort. *Francis Dobinson* and *Jack W. Wilke* were also EDEs until 1960 when they were decommissioned.

Conversion Notes

Seven more units of the "Buckley" class were converted to Radar Pickets (see previous page) but subsequently reverted to DE status.

Gunnery Notes

Ten DEs of this class have 5-inch guns (see photo).

Photograph Notes

Transom view of *Maloy*, showing experimental gear on stern, in the 1957-58 edition Starboard bow view of *Loeser* in the 1958-59 edition Starboard broadside view of *Darby*, showing differences in bridge and superstructure, in the 1955-56 to 1961-62 editions. Port quarter aerial oblique view of *Vammen* in the 1957-58 to 1961-62 editions. Port bow oblique aerial view of *Vammen* in the 1959-60 to 1961-62 editions

Rated as **Escort Ships** (DE)
47 "Edsall" Class

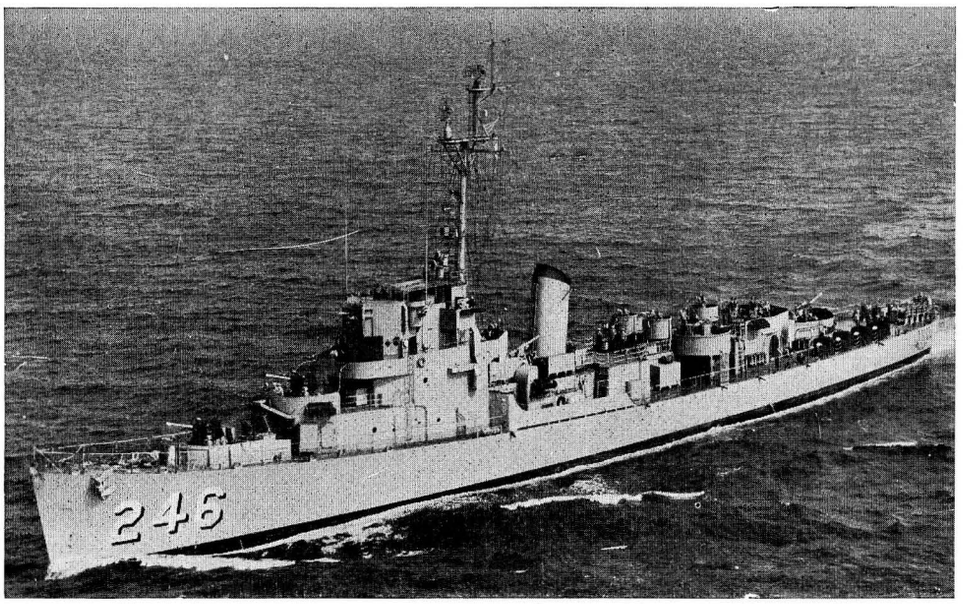
21 *Brown S. B. Co., Houston*

DE
398 COCKRILL
252 HOWARD D. CROW
250 HURST
396 JANSSEN
243 J. RICHARD WARD
241 KEITH
249 MARCHAND
392 MERRILL
240 MOORE
253 PETTIT
385 RICHEY
254 RICKETTS
245 SLOAT
246 SNOWDEN
247 STANTON
238 STEWART
399 STOCKDALE
248 SWASEY
394 SWENNING
242 TOMICH
395 WILLIS

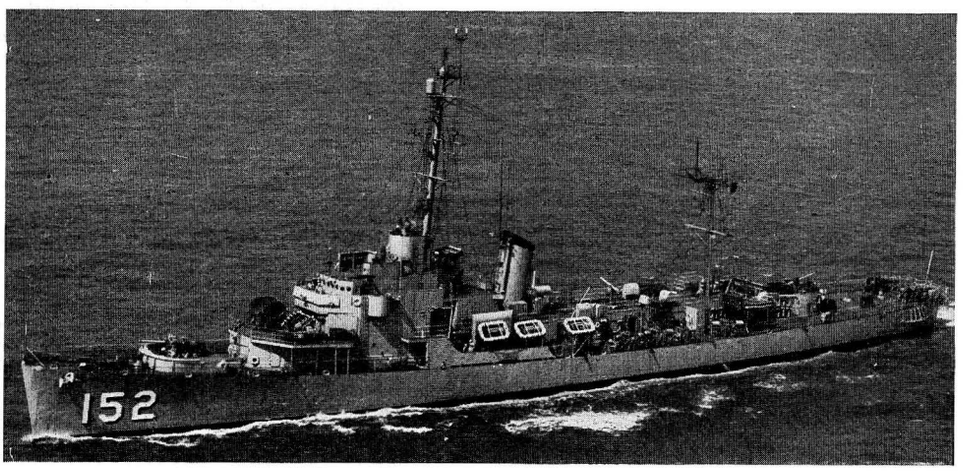
26 *Consolidated Steel Corpn.*
148 BROUGH
DE
149 CHATELAIN
337 DALE W. PETERSON
335 DANIEL
138 DOUGLAS J. HOWARD
129 EDSALL
139 FARQUHAR
135 FLAHERTY
144 FROST
131 HAMMAN (*ex-Langley*)
137 HERBERT C. JONES
141 HILL
145 HUSE
146 INCH
130 JACOB JONES
140 J. R. Y. BLAKELEY
338 MARTIN H. RAY
320 MENGES
321 MOSLEY
150 NEUNZER
330 O'REILLY
152 PETERSON A/S
151 POOLE
134 POPE
323 PRIDE
132 ROBERT E. PEARY

Displacement: 1,200 tons *standard* (1,850 tons *full load*)
Dimensions: 306 (*o.a.*) × 36⅝ × 8⁷⁄₁₂ (*mean*), 11 (*max.*) feet
Guns: 3—3 inch, 50 cal., 8—40 mm. AA. 4—20 mm. AA.
A/S weapons: D.C.T.
Machinery: 4 Fairbanks-Morse diesels. 2 shafts, B.H.P.: 6,000=21 kts.
Oil fuel: 279 tons
Radius: 11,500 miles at 11kts.
Complement: 220 (war)

Name	*Launched*	*Completed*
Brough	10 Apr. 1943	18 Sep. 1943
Chatelain	21 Aug. 1943	22 Sep. 1943
Cockrill	29 Oct. 1943	24 Dec. 1943
Dale W. Petersen	22 Dec. 1943	17 Feb. 1944
Daniel	16 Nov. 1943	24 Jan. 1943
Douglas L. Howard	25 Jan. 1943	29 July 1943
Edsall	1 Nov 1942	10 Apr. 1943
Farquhar	13 Feb. 1943	5 Aug. 1943
Flaherty	17 Jan. 1943	26 June 1943
Frost	21 Mar. 1943	30 Aug. 1943
Hamman	13 Dec. 1942	17 May 1943
Herbert C. Jones	19 Jan. 1943	21 July 1943
Hill	28 Feb. 1943	16 Aug. 1943
Howard D. Crow	26 Apr. 1943	27 Sep. 1943
Hurst	14 Apr. 1943	30 Aug. 1943
Huse	23 Mar. 1943	30 Aug. 1943
Inch	4 Apr. 1943	8 Sep. 1943
Jacob Jones	29 Nov. 1942	29 Apr. 1943
Janssen	10 Oct. 1943	18 Dec. 1943
J. Richard Ward	6 Jan. 1943	5 July 1943
J. R. Y. Blakeley	7 Mar. 1943	16 Aug. 1943
Keith	21 Dec. 1942	19 July 1943
Marchand	20 Mar. 1943	8 Sep. 1943
Martin H. Ray	29 Dec. 1943	28 Feb. 1944
Menges	15 June 1943	26 Oct 1943
Merrill	29 Aug. 1943	27 Nov. 1943
Moore	21 Dec. 1942	1 July 1943
Mosley	26 June 1943	30 Oct. 1943
Neunzer	27 Apr. 1943	27 Sep 1943
O'Reilly	2 Sep. 1943	28 Dec. 1943
Peterson	15 May 1943	29 Sep. 1943
Pettit	28 Apr. 1943	23 Sep. 1943
Poole	8 May 1943	29 Sep. 1943
Pope	12 Jan. 1943	25 June 1943
Pride	3 July 1943	13 Nov. 1943
Richey	20 June 1943	30 Oct. 1943
Ricketts	10 May 1943	5 Oct. 1943
Robert E. Peary	3 Jan. 1943	31 May 1943
Sloat	21 Jan. 1943	16 Aug. 1943
Snowden	19 Feb. 1943	23 Aug. 1943
Stanton	28 Feb. 1943	7 Aug. 1943
Stewart	22 Nov. 1942	31 May 1943
Stockdale	30 Oct. 1943	31 Dec. 1943
Swasey	18 Mar. 1943	31 Aug. 1943
Swenning	13 Sep. 1943	1 Dec. 1943
Tomich	28 Dec. 1942	26 July 1943
Willis	14 Sep. 1943	10 Dec. 1943



SNOWDEN 1956, *Skyfotos*



PETERSON (A/S) 1954, *Skyfotos*

General Notes

The original 3—21 inch torpedo tubes were removed. *Fessenden, Harveson. Joyce, Kirkpatrick, Otterstetter* and *Strickland* of this class were converted to DER (Radar Picket Escort Vessels) in 1951, *Haverfield, Pillsbury, Savage*, and *Wilhoite* were converted to DER in 1954-55, *Calcaterra, Chambers, Falgout, Koiner, Lowe* and *Rhodes* were converted to DER in 1955-56, *Brister, Camp, Durant, Finch, Forster, Hissem, Kretchmer, Lansing, Price, Roy O'Hale, Sillstrom* and *Vance* converted to DER under 1957 conversion program. Six others converted to DER under Fiscal 1957 conversion program (see next page). *Falgout, Finch, Forster, Koiner, Lowe* and *Newall*, transferred to United States Coast Guard 1951, *Chambers, Durant, Lansing, Ramsden, Richey, Vance*, 1952, were returned to U.S. Navy 1954. War losses: *Fiske, Frederick C. Davis, Holder, Leopold*.

Anti-Submarine Notes

A/S *Peterson* has been converted to DE(A/S), i.e. for specialised anti-submarine warfare, i.e. limited conversion with additional sonar and depth charge equipment added (recommissioned 1 May 1952).

Conversion Notes

The following vessels were redesignated from DE to DER and converted under the Fiscal Year 1957 Shipbuilding and Conversion Program:

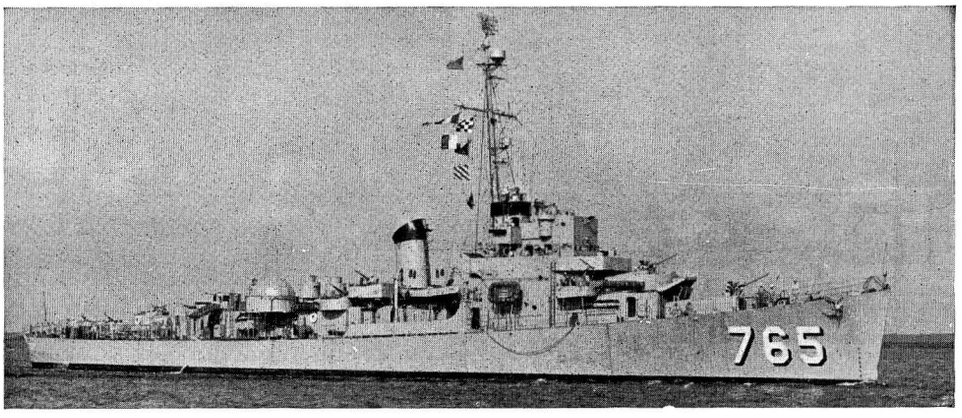
Blair DE 147 to DER 147, *Mills* DE 383 to DER 383, *Newell* DE 322 to DER 322, *Ramsden* DE 382 to DER, 382, *Sturtevant* DE 239 to DER 239, *Thomas J. Gary* DE 326 to DER 326. Conversion carried out during 1956-58.

Experimental Notes

The conversion program for 1955 provided for replacing the diesel engines in the escort vessel *Mills* (DE 383) with two British RM 60 gas turbines designed to reduce plant weight by approximately 15 per cent. while delivering 67 per cent. more power; but this project was abandoned and *Mills* was converted to DER (Radar Picket).

Rated as **Escort Ships** (DE)
22 "Bostwick" Class

Name	*Launched*	*Completed*
Acree	9 May 1943	19 July 1943
Booth	21 June 1943	19 Sep. 1943
Carroll	21 June 1943	24 Oct. 1943
Coffman	28 Nov. 1943	27 Dec. 1943
Cooner	25 July 1943	21 Aug. 1943
Earl K. Olsen	13 Feb. 1944	10 Apr. 1944
Hilbert	18 July 1943	4 Feb. 1944
Kyne	15 Aug. 1943	4 Apr. 1944
Lamons	1 Aug. 1943	29 Feb. 1944
Levy	28 Mar. 1943	13 May 1943
McClelland	28 Nov. 1944	19 Sep. 1944
McConnell	28 Mar. 1943	28 May 1943
Micka	22 Aug. 1943	23 Sep. 1943
Neal A. Scott	4 June 1944	31 July 1944
Osterhaus	18 Apr. 1943	12 June 1943
Oswald	25 Apr. 1944	12 June 1944
Parks	18 Apr. 1943	22 June 1944
Roberts	14 Nov. 1943	2 Sep. 1943
Snyder	29 Aug. 1943	5 May 1944
Straub	18 Sep. 1943	25 Oct. 1943
Tills	3 Oct. 1943	8 Aug. 1944
Trumpeter	18 Sep. 1943	25 Oct. 1943



EARL K. OLSEN 1953, *U.S. Navy, Official*

"Bostwick" Class—*continued*

12 *Federal S. B. & D.D. Co., Port Newark*

DE
167 ACREE
170 BOOTH
171 CARROLL
191 COFFMAN
172 COONER
162 LEVY
163 McCONNELL
176 MICKA
164 OSTERHAUS
165 PARKS
181 STRAUB
180 TRUMPETER

3 *Tampa S.B. Co.*

DE
765 EARL K. OLSEN
769 NEAL A. SCOTT
767 OSWALD

7 *Western Pipe & Steel Co.*

742 HILBERT
743 LAMONS
744 KYNE
750 McCLELLAND
749 ROBERTS
745 SNYDER
748 TILLS

Building Notes
For launching and completion dates of all the ships of this class see table at the bottom of preceding page.

Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅜ × 10⅔ (*mean*), 14 (*max.*) feet
Guns:	3—3 inch, 50 cal. d.p., 2—40 mm AA., 4—20 mm. AA.
Tubes:	3—21 inch, in triple mount (some have had torpedo tubes removed)
A/S weapons:	D.C.T.
Machinery:	General Motors diesels with electric drive. 2 shafts. B.H.P.: 6,000= 21 kts. (20 kts. sea speed)
Oil Fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	220

General Notes

The following vessels (D E) were formerly on the list of ships to be disposed of. They were removed from that list in 1952 and put back in the reserve Fleet: *Acree* (167), *Amick* (168), *Atherton* (169), *Booth* (170), *Carroll* (171), *Coffman* (1911) *Cooner* (172), *Hilbert* (742), *Lamons* (743), *Levy* (162), *McConnel*, (163), *Micka* (176), *Neal A. Scott* (769), *Osterhaus* (164), *Oswald* (767), *Parks* (165), *Straub* (181), and *Trumpeter* (180).

Transfer Notes

Eight ships of this class, originally rated as Destroyer Escorts (D E,) were transferred to Brazilian Navy, four to Chinese Navy, and 14 to French Navy. *Ebert* (768), *Eldridge* (173) *Garfield Thomas* (193), and *Slater* (766) transferred to Greece 1951. *Burrows* (105), *Eisner* (192), *Gustafson* (182), *O'Neill* (188), *Rinehart* (196) and *Stern* (187) were transferred to the Netherlands in 1950-51. *Gandy* (764), *Thornhill* (195), and *Wesson* (184) transferred to Italy 1951. *Bangust* (739). *Waterman* (740), and *Weaver* (741) transferred to Peru in 1952, and *Baron* (166) and *Bronstein* (189) transferred to Uruguay 1951, *Amick*, DE 168, and *Atherton*, DE 169, were loaned to Japan 1955. *Muir* (770) and *Sutton* (771) transferred to South Korean Republic 1956. *Hemminger*, DE 746, was transferred to Thailand in July 1959.

Rated as
Escort Ships, Radar Picket (DER)

34 Converted "Edsall" Class

16 *Brown S.B. Co., Houston*

DER
390 CALCATERRA
251 CAMP
391 CHAMBERS
389 DURANT
393 HAVERFIELD
400 HISSEM
388 LANSING
383 MILLS
244 OTTERSTETTER
382 RAMSDEN
384 RHODES
386 SAVAGE
255 SELLSTROM
239 STURTEVANT
387 VANCE
397 WILHOITE

18 *Consolidated Steel Corporation*

DER
147 BLAIR
327 BRISTER
324 FALGOUT
142 FESSENDEN
328 FINCH
334 FORSTER
316 HARVESON
317 JOYCE
318 KIRKPATRICK
331 KOINER
329 KRETCHMER
325 LOWE
322 NEWELL
133 PILLSBURY
332 PRICE
336 ROY O'HALE
333 STRICKLAND
326 THOMAS J. GARY

Displacement:	1,590 tons *standard* (1,850 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅜ × 11 (*max.*) feet
Guns:	2—3 inch, 50 cal.; 6—20 mm. AA. (3 twin mounts)
A/S weapons:	1 trainable Hedgehog mounting, 2 torpedo rack side launchers, 1 D.C rack
Machinery:	4 Fairbanks-Morse Diesels. 2 shafts. B.H.P.: 6,000=21 kts.
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	150

General Notes

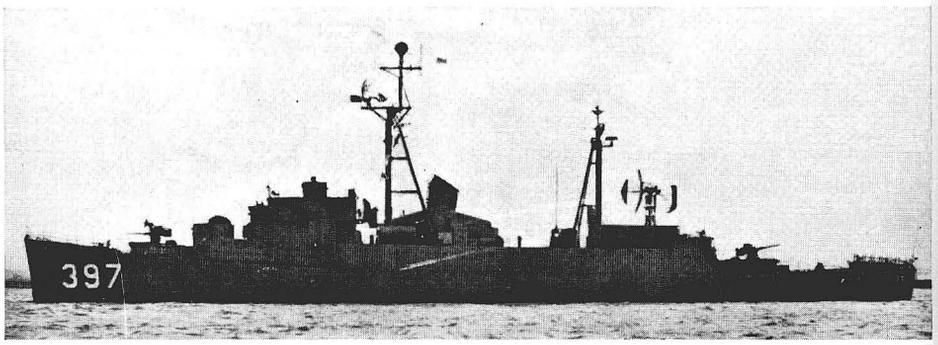
Originally rated as Destroyer Escorts (DE) but now grouped under the generic heading of Patrol Ships with the specific designation of Radar Picket Escort Ships.

Building dates below.

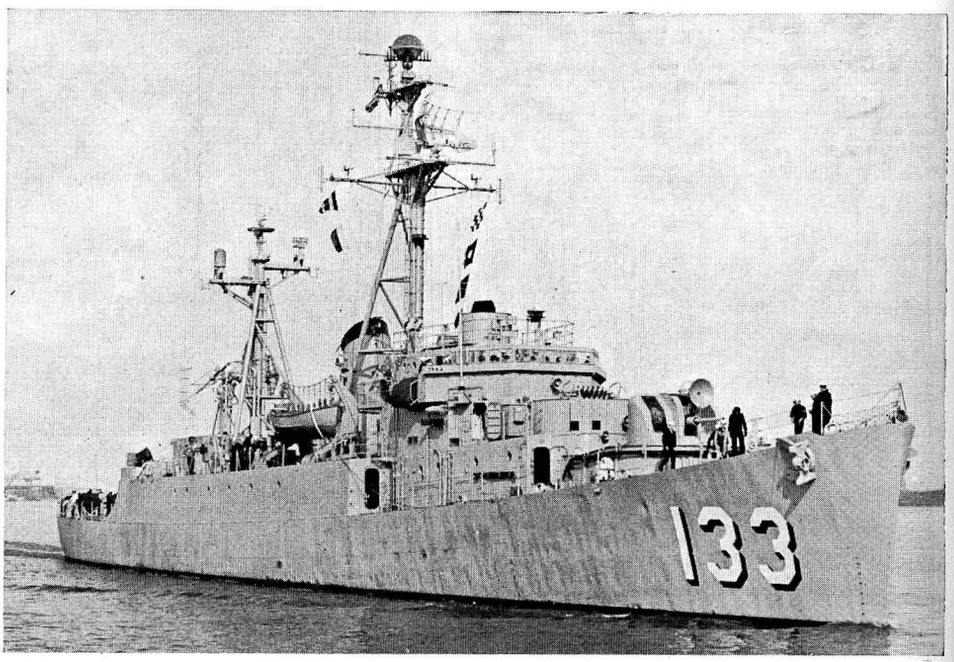
Conversion Notes

Fessenden, *Harveston*, *Joyce*, *Kirkpatrick*, *Otterstetter* and *Strickland* were converted to DER 1951, *Haverfield*, *Pilsbury*, *Savage* and *Wilhoite* in 1954-55, *Calcaterra*, *Chambers*, *Falgout*, *Koiner*, *Lowe*, *Rhodes*, in 1955-56, *Bristler*, *Camp*, *Durant*, *Finch*, *Forster*, *Hissem*, *Kretchmer*, *Lansing*, *Price*, *Roy O'Hale*, *Sellstrom*, *Vance* in 1956-57, *Blair*, *Mills*, *Newell*, *Ramsden*, *Sturtevant* and *Thomas J. Gary* in 1956-58. New equipment includes air search, height finder and surface search radar, and they are rigged to detect enemy action at sea or in the air in any form. Conversion includes improvement in habitability by installing the mess compartment on the main deck (see photos), and most of the new superstructure is of aluminium to reduce top weight. *Harveson* underwent further conversion in 1957. *Blair*, DER 147, was converted from DE 147 under the 1957 program. Conversion work commenced on 2 Jan. 1957 and was completed on 2 Jan. 1958.

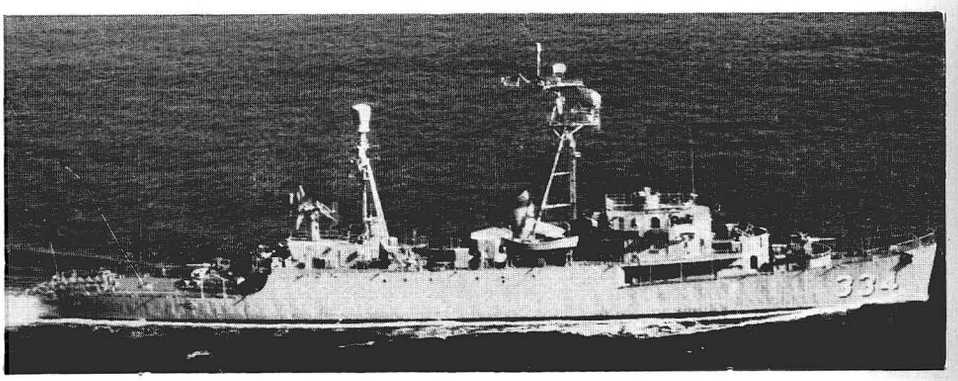
Name	*Launched*	*Completed*
Blair	6 Apr. 1943	13 Sep. 1943
Brister	24 Aug. 1943	30 Nov. 1943
Calcaterra	16 Aug. 1943	17 Nov. 1943
Camp	16 Apr. 1943	16 Sep. 1943
Chambers	17 Aug. 1943	22 Nov. 1943
Durant	3 Aug. 1943	16 Nov. 1943
Falgout	24 July 1943	15 Nov. 1943
Fessenden	9 Mar. 1943	25 Aug. 1943
Finch	28 Aug. 1943	13 Dec. 1943
Forster	13 Nov. 1943	25 Jan. 1944
Harveson	22 May 1943	12 Oct. 1943
Haverfield	30 Aug. 1943	29 Nov. 1943
Hissem	26 Dec. 1943	13 Jan. 1944
Joyce	26 May 1943	30 Sep. 1943
Kirkpatrick	5 June 1943	23 Oct. 1943
Koiner	5 Sep. 1943	27 Dec. 1943
Kretchmer	31 Aug. 1943	13 Dec. 1943
Lansing	3 Aug. 1943	10 Nov. 1943
Lowe	28 July 1943	22 Nov. 1943
Mills	26 May 1943	12 Oct. 1943
Newell	29 June 1943	30 Oct. 1943
Otterstetter	19 Jan. 1943	6 Aug. 1943
Pillsbury	10 Jan. 1943	7 June 1943
Price	30 Oct. 1943	12 Jan. 1944
Ramsden	24 May 1943	19 Oct. 1943
Rhodes	29 June 1943	25 Oct. 1943
Roy O'Hale	20 Nov. 1943	3 Feb. 1944
Savage	15 July 1943	29 Oct. 1943
Sellstrom	12 May 1943	12 Oct. 1943
Strickland	2 Nov. 1943	10 Jan. 1944
Sturtevant	3 Dec. 1942	16 June 1943
Thomas J. Gary	21 Aug. 1943	27 Nov. 1943
Vance	16 July 1943	1 Nov. 1943
Wilhoite	Oct. 1943	16 Dec. 1943



WILHOITE — *Added* 1958, *U.S. Navy, Official*



PILLSBURY — 1957, *U.S. Navy, Official*



FORSTER — 1957, *U.S. Navy, Official*

Gunnery Notes
The six 20 mm. anti-aircraft guns formerly mounted have been removed.

A/S Weapon Notes
The armament installed for anti-submarine warfare includes a hedgehog and side launching racks for torpedoes.

Torpedo Notes
The three 21 inch torpedo tubes originally carried were removed.

Photograph Notes
Port bow view of *Harveson*, before recent conversion, and starboard broadside view of *Koiner*, as converted to radar picket, in the 1957-58 (Diamond Jubilee) edition.

FAST TRANSPORTS (Modified Destroyer Escorts)

Rated as
High Speed Transports (APD)
64 Converted Destroyer Escorts

APD	(Ex-*DE*)	
97	281	**ARTHUR L. BRISTOL** (19 Feb. 1940)
132	716	**BALDUCK** (27 Oct. 1944)
57	161	**BARBER** (20 May 1943)
73	672	**BASSETT** (15 Jan. 1944)
127	711	**BEGOR** (25 May 1944)
109	599	**BELET** (3 Mar. 1944)
119	722	**BEVERLY W. REID** (4 Mar. 1944)
48	69	**BLESSMAN** (19 June 1943)
78	693	**BULL** (25 March 1943)
79	694	**BUNCH** (29 May 1943)
133	717	**BURDO** (25 Nov. 1944)
65	215	**BURKE** (3 April 1943)
37	53	**CHARLES LAWRENCE**(16 Feb. 1943)
62	208	**COFER** (6 Sep. 1943)
130	714	**COOK** (26 Aug. 1944)
38	54	**DANIEL T. GRIFFIN** (25 Feb. 1943)
123	690	**DIACHENKO** (15 Aug. 1944)
129	713	**DONALD W. WOLF** (22 July 1944)
118	721	**DON O. WOODS** (19 Feb. 1944)
113	603	**EARHART** (12 May 1945)
107	597	**EARLE B. HALL** (1 Mar. 1944)
66	216	**ENRIGHT** (29 May 1943)
116	606	**FRANCOVICH** (5 June 1945)
42	60	**GANTNER** (17 Apr. 1943)
43	62	**GEORGE W. INGRAM** (8 May, 1943)
26	710	**GOSSELIN** (4 May 1944)
108	598	**HARRY L. CORL** (1 Mar. 1944)
80	212	**HAYTER** (11 Nov. 1943)
86	794	**HOLLIS** (11 Sep. 1943)
51	155	**HOPPING** (10 Mar. 1943)
124	691	**HORACE A. BASS** (12 Sep. 1944)
53	211	**HUBBARD** (11 Nov. 1943)
72	671	**JACK C. ROBINSON** (8 Jan. 1944)
74	673	**JOHN P. GRAY** (18 Mar. 1944)
49	70	**JOSEPH E. CAMPBELL** (26 June 1943)
117	674	**JOSEPH M. AUMAN** (5 Feb. 1944)
110	600	**JULIUS A. RAVEN** (3 Mar. 1944)
61	207	**KEPHART** (6 Sep. 1943)
91	232	**KINZER** (9 Dec. 1943)
90	229	**KIRWIN** (16 June 1944)
120	687	**KLINE** (27 June 1944)
101	591	**KNUDSON** (5 Feb. 1944)
55	159	**LANING** (4 July 1943)
45	65	**LEE FOX** (29 May 1943)
60	206	**LIDDLE** (9 Aug. 1943)
63	209	**LLOYD** (23 Oct. 1943)
56	160	**LOY** (4 July 1943)
59	205	**NEWMAN** (9 Aug. 1943)
71	670	**ODUM** (19 Jan. 1944)
70	669	**PAVLIC** (18 Dec. 1943)
121	688	**RAYMOND W. HERNDON** (15 July '44)
102	592	**REDNOUR** (12 Feb. 1944)
92	233	**REGISTER** (20 Jan. 1944)
100	590	**RINGNESS** (5 Feb. 1944)
89	228	**RUCHAMKIM** (15 June 1944)
76	676	**SCHMITT** (29 May 1943)
122	689	**SCRIBNER** (1 Aug. 1944)
103	593	**TOLLBERG** (12 Feb. 1944)
98	282	**TRUXTON** (9 Mar. 1944)
111	601	**WALSH** (28 Apr 1945)
106	596	**WALTER B. COBB** (23 Feb. 1944)
135	719	**WEISS** (17 Feb. 1945)
95	236	**WILLIAM M. HOBBY** (11 Feb. 1944)
69	668	**YOKES** (27 Nov. 1943)

Displacement:	1,400 tons *standard*, 1,650 tons *trials* (2,130 tons *full load*)
Dimensions:	300 (*w.l.*), 306 (*o.a.*) × 37 × 12⅔ (*max.*) feet
Guns:	1—5 inch, 38 cal. d.p., 6—40 mm AA.
Machinery:	General Electric geared turbines with electric drive. 2 shafts. S.H.P.: 12,000=23·6 kts. (trials)
Boilers:	2 Express
Oil fuel:	350 tons
Radius:	5,500 miles at 15 kts.
Complement:	204+162 troops

General Notes

Former destroyer escorts converted and officially rated as High-Speed Transports. Carry four LCVP (Landing Craft Vehicle-Personnel). Seven proposed conversions abandoned. APD 82, *Borum* (DE 790) and APD 83, *Maloy* (DE 791) not converted. *Durik*, DE 666, *Jenks*, DE 665, and *Scott*, DE 214, were also originally assigned as APD (68, 67 and 64 respectively). War loss: *Bates* (APD 47, ex-DE 68). Three, APD 54, *Chase* (DE 158), APD 41, *England* (DE 635), and APD 58, *Witter* (DE 636), scrapped.

Appearance Notes

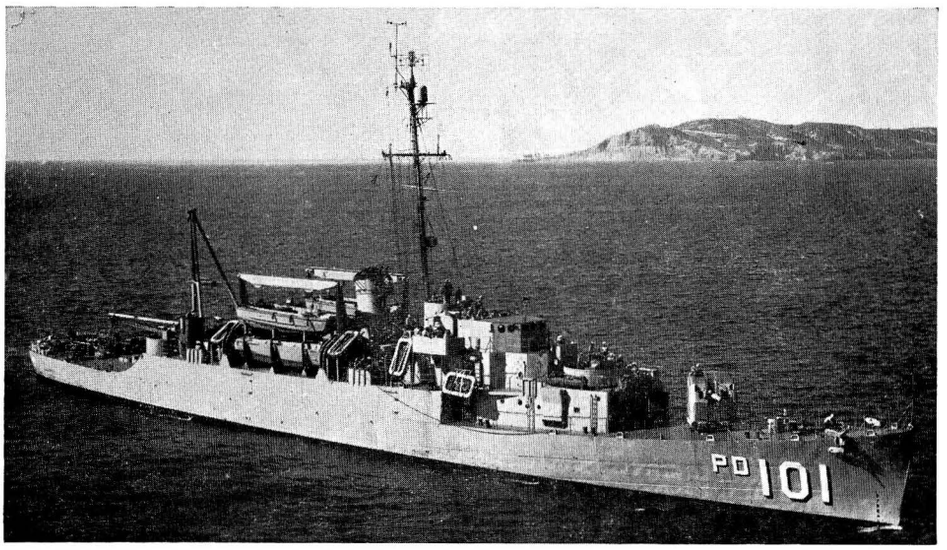
Those converted from "Buckley" type retained high bridge, but were given a 5-inch gunhouse forward and a lattice mainmast, for twin cargo booms.

Flagship Conversion Notes

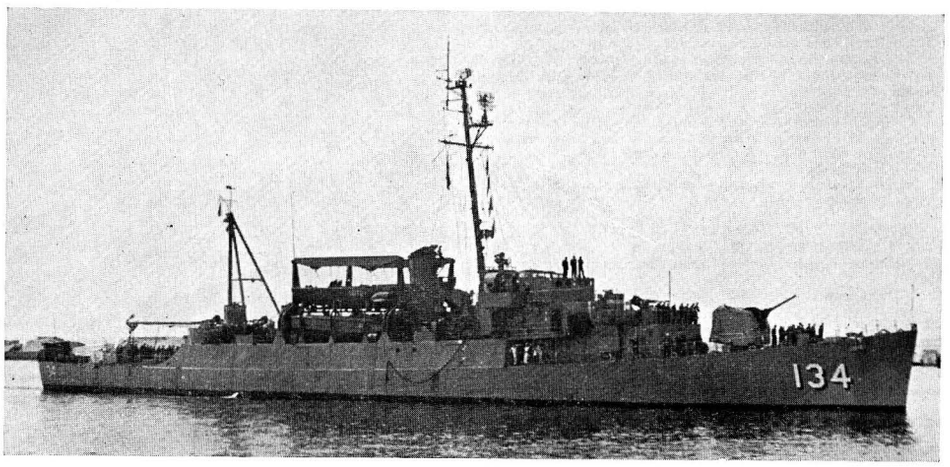
Laning (55), *Lloyd* (63), *Hollis* (86), *Knudson* (101, *Cavallaro* (128), *Cook* (130) and *Balduck* (132) have undergone limited conversion into APD flagships with facilities for added officers and staff quarters.

Transfer Notes

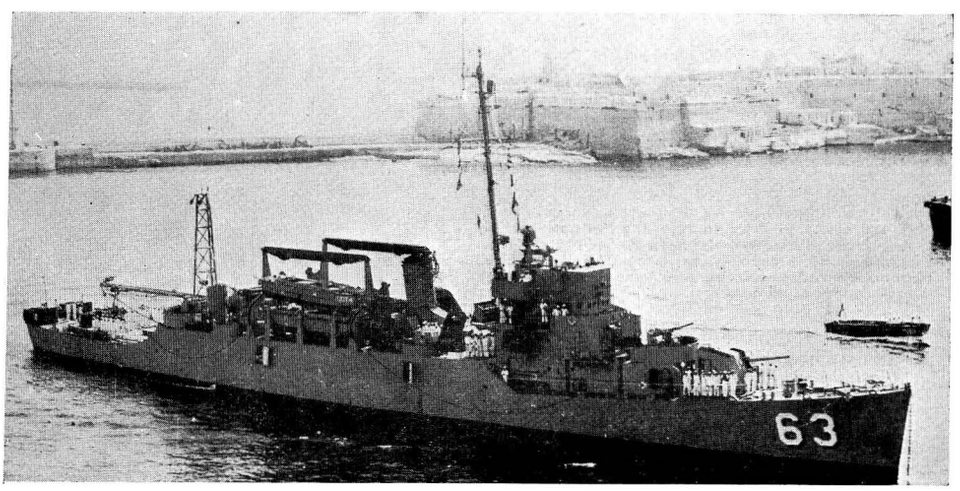
Cavallaro, APD 128, was transferred to Korea in Oct. 1959 at Long Beach, California, and renamed *Kyung Nam*. *Kleinsmith*, APD 134, was transferred to Taiwan China (Formosa) in May 1960, and renamed *Tien Shan*. *Bowers*, APD 40, was transferred to the Philippines on 21 Apr. 1961.



KNUDSON (APD Flagship) — *Added 1959, Ted Stone*



KLEINSMITH — *1959, Giorgio Arra*



LLOYD (lattice main) — *1953, A. & J. Pavia*

Recent Disposals

Wantuck, APD 125, was stricken from the Navy List on 4 Mar. 1958 after collision with an attack transport (APA). *Carpellotti*, APD 136, was stricken from the Navy List on 1 Dec. 1960. *Amesbury*, APD 46, *Barr*, APD 39, *Bray*, APD 39, *Brock*, APD 93, *Cread*, APD 88, *Crosley*, APD 87, *Frament*, APD 77, *Haines*, APD 84, *Hunter Marshall*, APD 112, *Ira Jeffrey*, APD 44, *John Q. Roberts*, APD 94, *Myers*, APD 105, *Ray K. Edwards*, APD 96, *Reeves*, APD 52, *Rogers Blood*, APD 115, *Runels*, APD 85, *Sims*, APD 50, *Tatum*, APD 81, *Upham*, APD 99, *Walter S. Gorka*, APD 114, *Weber*, APD 75, and *William J. Pattison*, APD, 104, were also stricken at the end of 1960. *Walter X. Young*, APD 131, was stricken in 1962.

Brock, *Myers* and *Upham* were sold to Colombia, and *Bray*, *Crosley*, *Frament*, *Hunter Marshall*, *Reeves* and *Walter S. Gorka* were sold to Ecuador in 1961-62 and are all being converted into power plants.

ESCORT RESEARCH SHIP (AG)

1 New Construction

AGDE 1 (ex-AG 163)

Displacement:	1,850 tons
Dimensions:	414½ × 44 × 18 feet
Guns:	3—5 inch, 50 cal. (twin forward, single aft)
A/S weapons:	Rocket launchers, torpedo launchers
Aircraft:	Drone anti-submarine helicopter
Boiler:	Newly developed pressure fired

Notes

An experimental hull of advanced hydrodynamic and propulsion design. To be used to obtain data for determining the optimum configuration for mounting sonar for best performance, and hydrodynamic and self-noise information unobtainable from model tests. Her radical propulsion system will consist of counter-rotating propellers emerging from an electric motor nacelle at the stern to reduce cavitation. It is expected that under normal search conditions it will be virtually free from propeller noises. A long range moulded plastic sonar dome will be built into the stem, and a variable depth sonar installation will be housed in the bottom of the ship. With this combination it is expected to be able to detect and track a submarine at great distances, regardless of its depth. This ship was originally authorised in the 1960 program but action was postponed and she was re-introduced into the 1961 program. To cost $29,330,000. To be built by Bath Ironworks.

GUIDED MISSILE SHIP (AVM) and SEAPLANE CARRIERS (AV)

4 "Currituck" Class

AVM 1 NORTON SOUND (ex-AV 11, 28 Nov. 1943)
AV 7 CURRITUCK (11 Sep. 1943)
AV 12 PINE ISLAND (26 Feb. 1944)
AV 13 SALISBURY SOUND (ex-*Puget Sound*, 18 June 1944)

Displacement:	9,106 tons *standard* (15,092 tons *full load*)
Dimensions:	520 (*w.l.*), 540½ (*o.a.*) × 69¼ × 26 feet
Guns:	4—5 inch, 38 cal. (All 40 mm. AA. guns removed).
Machinery:	Geared turbines (Parsons in *Currituck*), Allis-Chalmers in others. 2 shafts. S.H.P.: 12,000 = 19·2 kts.
Complement:	1,247 (war). 555(30 officers, 525 men (peacetime)

General Notes

Currituck was built by Philadelphia Navy Yard, others by Todd Shipyards, Los Angeles, *Norton Sound* was adapted as the Navy's seagoing rocket laboratory ship and equipped for experiments with guided missiles. Two forward 5-inch guns were removed to make space for helicopter platform; and her stern crane was removed. This ship carried out experiments in the Pacific, making practice firings with "Loon" missiles, American versions of the wartime V-1 "buzz" bombs, and with shipboard launching of the Navy's "Aerobee," a true rocket which attained altitudes up to 78 miles and speeds estimated at about 2,000 miles an hour. In 1960 *Norton Sound* was assigned to the Operational Test and Evaluation Force. She was fitted with a launcher for "Tartar" guided missile testing. In Aug. 1962 her "Typhon" conversion began at Bethlehem Steel Co., Baltimore, Maryland, and she will be re-commissioned in 1964.

Guided Missile Notes

The 1962-63 conversion provided for the installation in *Norton Sound* of the prototype TYPHON air defence system for test and evaluation purposes. This ship-board installation is a necessary step in the development of the ultimate TYPHON weapons system which is scheduled for installation in the nuclear powered guided missile frigate of the Fiscal Year 1963 new construction programme.

The *Norton Sound* has served as a sea-going test platform for various other missile systems since 1949 (see *General Notes* above).

Conversion Notes

Currituck was modernised under the 1957 conversion program at Philadelphia Naval Shipyard and on completion of the conversion was commissioned on 20 Aug. 1960.

Photograph Notes

A port bow aerial view of *Pine Island* appears in the 1954-55 to 1959-60 editions.

1 "Curtiss" Class

AV 4 CURTISS (20 Apr. 1940)

Displacement:	8,671 tons *standard* (13,475 tons *full load*)
Dimensions:	508 (*w.l.*) 527⅓ (*o.a.*) × 69¼ × 21⅓ (*max.*) feet
Guns:	4—5 inch, 38 cal., 14—40 mm. AA.
Aircraft:	25
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 12,000 = 19·7 kts.
Boilers:	4 Babcock & Wilcox Express
Complement:	1,195 (war)

General Notes

Built as a large seaplane tender by the New York Shipbuilding Corporation, New Jersey, under the 1937 Fiscal Year Program, with space for Flag and Fleet Air Wing staffs. *Curtiss* was modified for use by the Atomic Energy Commission and Special Assignments. Modifications included the installation of shops and equipment for the Atomic Energy Commission within the former hangar area. She was inactivated and decommissioned to the Reserve Fleet in June 1957.

Conversion Notes

Under the 1956 Fiscal program *Albermarle* underwent modernisation and conversion to handle larger seaplanes at Philadelphia Navy Shipyard for completion in Dec. 1957. She commissioned on 21 Oct. 1957. She is provided with stern ramps, servicing booms, semi-sheltered area, and a service drydock for seaplanes.

Recent Disposal

Sister ship *Albermarle*, AV 5, was decommissioned in 1960, and placed in the custody of the Maritime Administration National Defence Reserve Fleet. See photographs : a large starboard broadside view in the 1958-59 to 1961-62 editions, and a starboard quarter oblique aerial view in the 1959-60 to 1961-62 editions.

1 "Chandeleur" Type

AV 10 CHANDELEUR

Displacement:	9,031 tons *standard* (14,200 tons *full load*)
Dimensions:	492 (*o.a.*) × 69½ × 23¾ (*max.*) feet
Guns:	1—5 inch, 38 cal., 4—3 inch, 50 cal.
Machinery:	General Electric geared turbines. 1 shaft. S.H.P.: 8,500 = 18·4 kts.
Boilers:	2 Foster-Wheeler

Notes

Launched on 29 Nov. 1941. Maritime Commission type C3-S1-B1 with single screw. Out of commission, in reserve.

Recent Disposals

Both of the seaplane tenders of the "Tangier" Class, *Pocomoke*, AV 9, and *Tangier*, AV 8, were stricken from the List of Naval Vessels in June 1961.

2 "Kenneth Whiting" Class

AV 15 HAMLIN (11 Jan. 1944)
AV 16 ST. GEORGE (14 Feb. 1944)

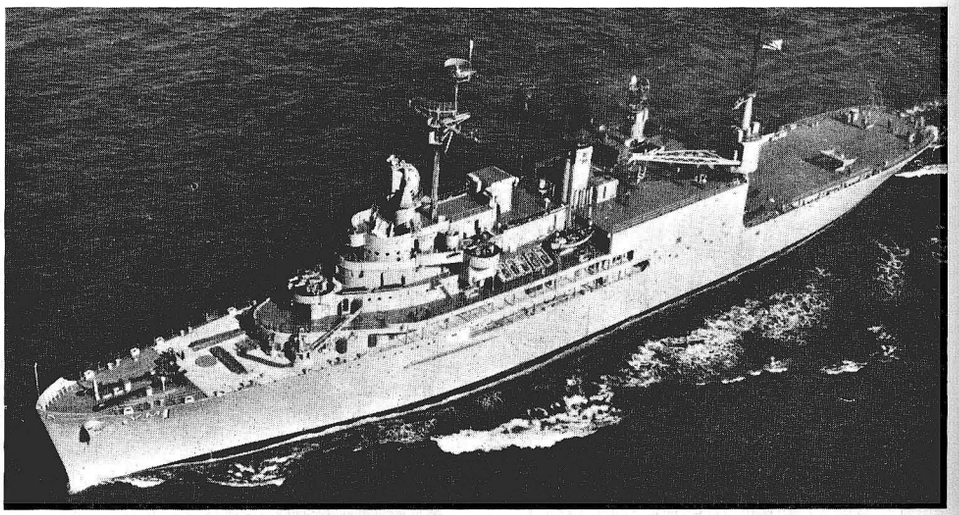
Displacement:	8,510 tons *standard* (14,000 tons *full load*)
Dimensions:	492 (*o.a.*) × 69½ × 26 (*max.*) feet
Guns:	2—5 inch, 38 cal., 12—40 mm. AA., 16—20 mm. AA.
Machinery:	Allis-Chalmers geared turbines. 1 shaft. S.H.P.: 8,500 = 18·7 kts.
Boilers:	2 Foster-Wheeler
Complement:	662 (peace)

Notes

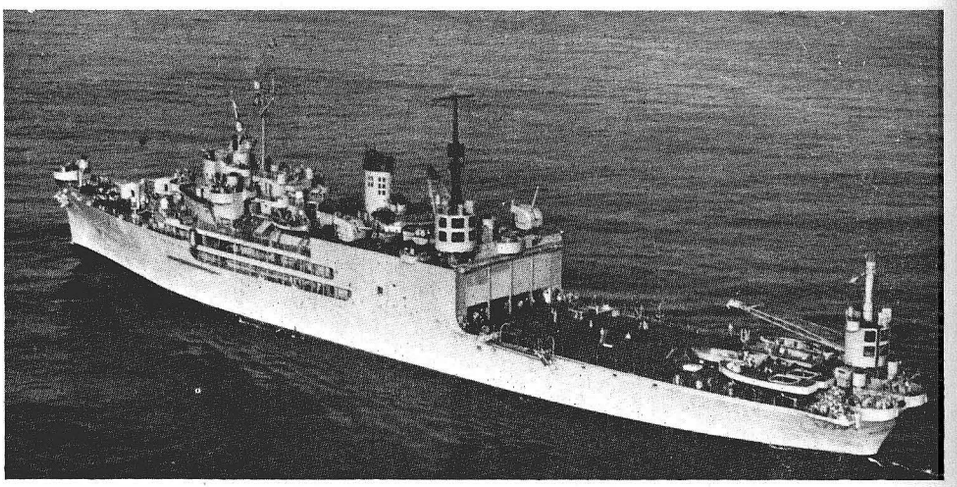
Both modified Maritime Commission C3-S-A1 Todd-Pacific type conversions, single screw. Both out of commission, in reserve.

Recent Disposals

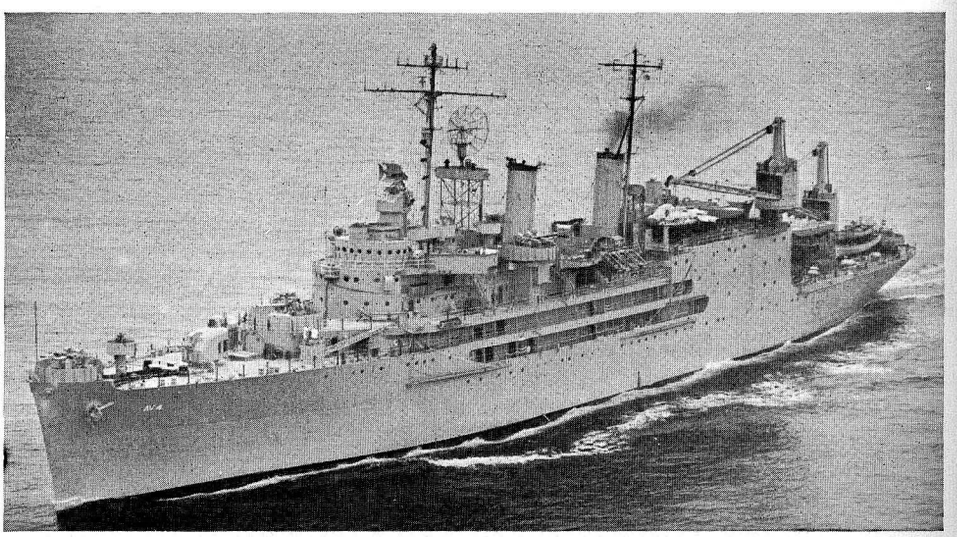
Of this class *Cumberland Sound*, AV 17, and *Kenneth Whiting*, AV 14, were stricken from the List of Naval Vessels in July 1961.



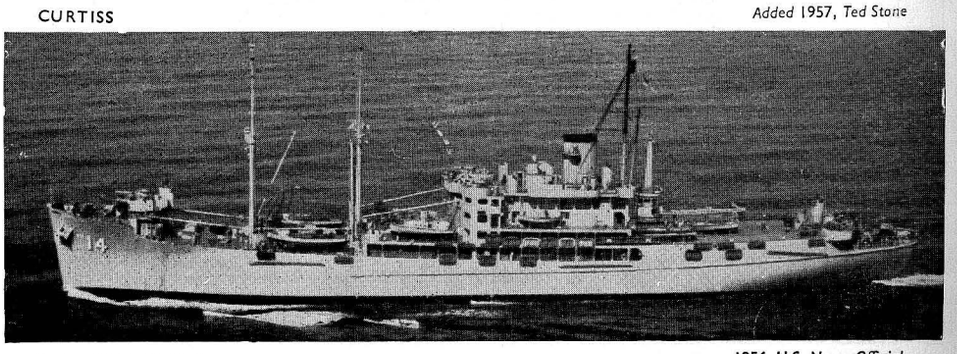
NORTON SOUND — 1960, *United States Navy, Official*



SALISBURY SOUND — *Added* 1960, *United States Navy, Official*



CURTISS — *Added* 1957, *Ted Stone*



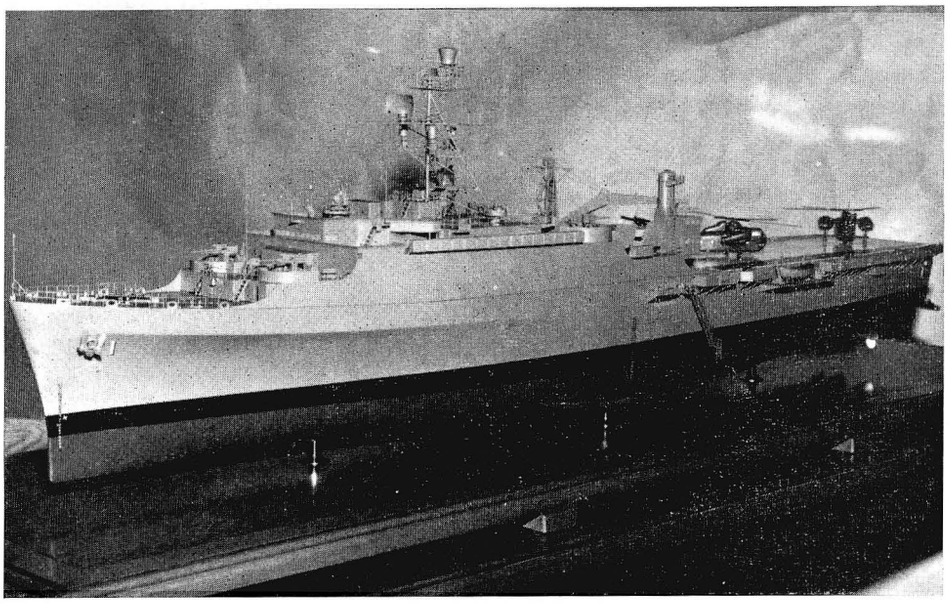
KENNETH WHITING — 1956, *U.S. Navy, Official*

AMPHIBIOUS TRANSPORTS DOCK (LPD)

6 + 4 New Construction

LPD	LPD
1 RALEIGH	4
2 VANCOUVER	5
3 LA SALLE	6

Displacement:	8,040 tons *light* (13,900 tons *full load*)
Dimensions:	Length: 510 feet (*w.l.*), 522 feet (*o.a.*). Beam: 84 feet
Guns:	8—3 inch, 50 cal. (four twin mounts)
Aircraft:	6 large transport helicopters
Landing Craft:	1 large (LCU) and 9 small (LCM (6))
Machinery:	Speed=20 kts.
Boilers:	2 Babcock & Wilcox
Complement:	462 (27 officers, 435 men)



RALEIGH (Scale model) 1962, *United States Navy, Official*

Notes

Raleigh was authorised under the Fiscal Year 1959 New Construction Program. Built at New York Naval Shipyard. Laid down on 23 June 1960. Launched on 17 Mar. 1962. Completed on 28 Aug. 1962. This new Amphibious Transport Dock has a new type of hull combining features of both an attack transport and an attack cargo ship with the basic hull of the " Thomaston " class LSDs, but with a shortened and covered well. She carries landing craft in the covered well, the roof of which is a helicopter landing platform, and launches her landing craft from either floating or roll on/roll off when in stopped position, or when moving by floating out of the well. She can accommodate 900 troops and their equipment.

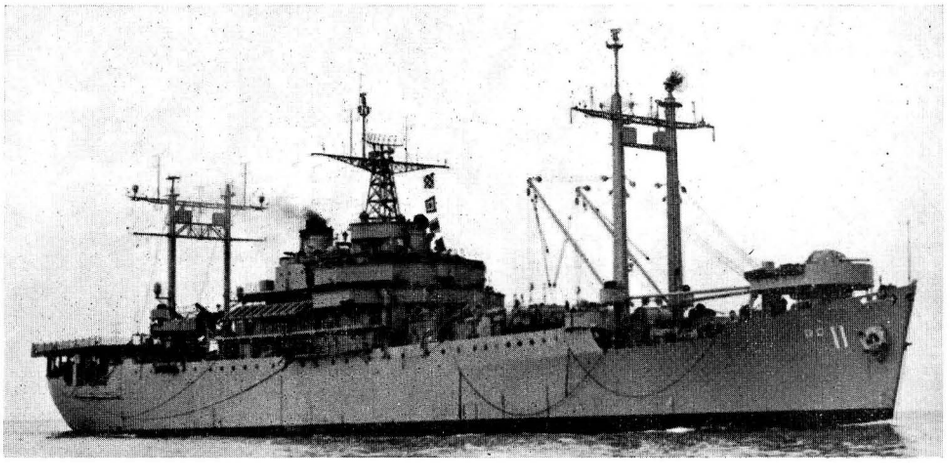
Vancouver authorised under the Fiscal Year 1960 Program, was laid down on 19 Nov. 1960, also at New York Naval Shipyard. To cost $29,000,000. *La Salle* was requested in the Fiscal Year 1961 Program. Awarded to New York Naval Shipyard and laid down on 2 April 1962. *LPD* 4, 5 and 6 were requested in the Fiscal Year 1962 Program. Awarded to the New York Naval Shipyard. To cost $41,400,000. Four more LPDs were requested in the Fiscal Year 1963 Program.

AMPHIBIOUS FORCE FLAGSHIPS (AGC)

5 " Mount McKinley " Class

AGC
11 ELDORADO (ex *Monsoon*, 26 Oct. 1943)
12 ESTES (ex-*Morning Star*, 1 Nov. 1943)
7 MOUNT McKINLEY (ex *Cyclone*, 27 Sep. 1943)
16 POCONO (25 Jan. 1945)
17 TACONIC (10 Feb. 1945)

Displacement:	5,450 tons (*Navy light*), 15,295 tons *full load*
Dimensions:	435 (*w.l.*,) 459½ (*o.a.*) × 63 × 28¼ (*max.*) feet
Guns:	1—5 inch, 6—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 6,000= 16·4 kts.
Boilers:	2 Combustion Engineering type
Complement:	About 550. (*Mount McKinley* 36 officers, 481 men)



ELDORADO *Added* 1962, *United States Navy, Official*

General Notes

C2-S-A1 type, but differ. Radar and radio equipment is exceptionally elaborate. Twin 40 mm. installed on extended stern of *Eldorado* and other ships instead of 5 inch, 38 cal., as formerly. *Pocono* and *Taconic* have single mast instead of after king-post.

Class Notes

Pocono and *Taconic* are of a slightly different class.

Flagship Notes

Originally rated as Combined Operations Communications Headquarters Ships, these vessels are fitted as flagships for Chiefs of Combined Forces, with accommodation for Marine and Army units attached. In 1951, for instance, the *Mount Olympus* temporarily relieved the heavy cruiser *Colombus* as flagship of the Commander-in-Chief, American Forces, Eastern Atlantic and Mediterranean.

Helicopter Notes

The after guns were removed in *Eldorado* and a helicopter landing platform was installed. All active units, including *Estes*, *Pocono* and *Mount McKinley* were also fitted with a helicopter landing platform on the stern.

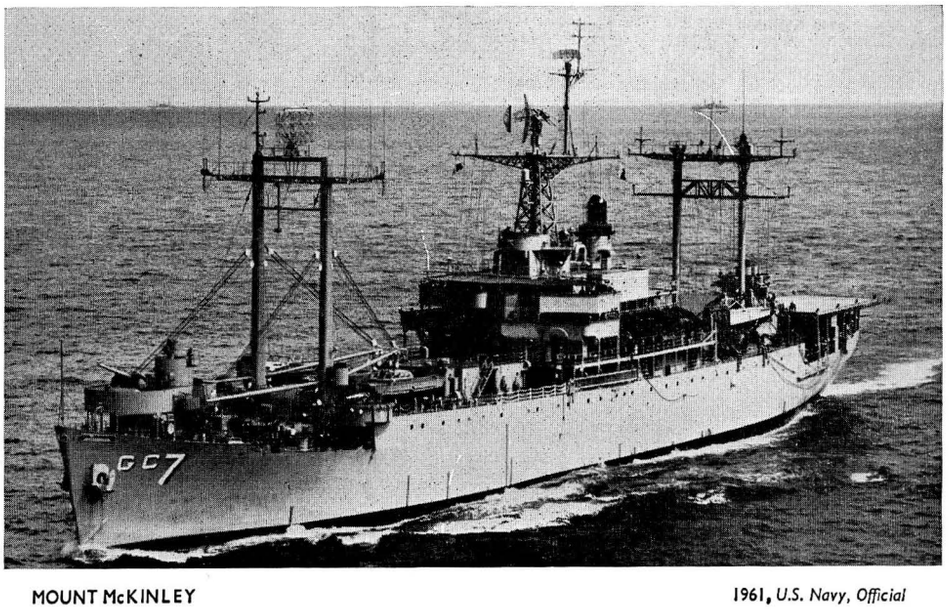
Photograph Notes

A port quarter view of *Mount Olympus* appears in the 1952-53 to 1959-60 editions.

Recent Disposals

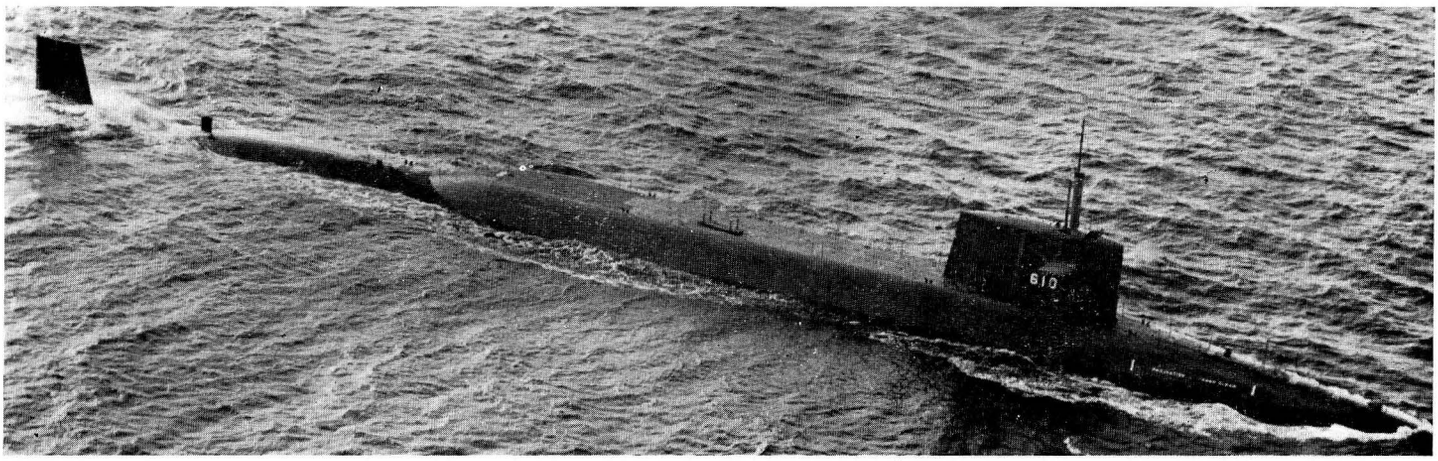
Wasatch (ex-*Fleetwing*), AGC 9, of the " Mount McKinley " class was stricken on 1 Jan. 1960 and *Auburn*, AGC 10, and *Panamint*, AGC 13, at the end of 1960. Of the four amphibious force flagships of the " Appalachian " class, *Appalachian*, AGC 1, and *Catoctin*, AGC 5, were stricken from the Navy List on 1 Mar. 1959, and their sister ships *Blue Ridge*, AGC 2, and *Rocky Mount*, AGC 3, were stricken on 1 Jan. 1960. *Adirondack*, AGC 15, *Mount Olympus* (ex-*Eclipse*), AGC 8, and *Teton* (ex-*Witch of the Wave*), AGC 14, were stricken from the List of Naval Vessels in 1961.

The 1,730-ton yacht *Williamsburg*, AGC 369, launched in 1931 and acquired in 1941, refitted and reclassified as an amphibious force flagship in 1946 and used as the Presidential Yacht until the end of 1952, was in 1962 transferred to the National Science Foundation for operation by Woods Hole Oceanographic Institution.



MOUNT McKINLEY 1961, *U.S. Navy, Official*

SUBMARINES



THOMAS EDISON

1962, *Electric Boat Division, General Dynamics Corporation, Groton, Conn. (Builders)*

Nuclear Powered Fleet Ballistic Missile Submarines (SSBN)

6 Projected

SSBN
SSBN
SSBN
SSBN
SSBN
SSBN

Displacement:	7,000 tons *standard* (over 8,200 tons *submerged*)
Dimensions:	Length: 425 feet
Guided Missiles:	16 A-3 model " Polaris " with a range of 2,875 miles
Machinery:	1 pressurised water cooled nuclear reactor. Geared turbines

Notes

Requested in the Fiscal Year 1963 New Construction Program. Advanced nuclear powered fleet ballistic missile submarines capable of firing the latest A-3 model " Polaris " missile while surfaced or submerged.

These six 1963 Program units, together with six more in the 1964 Program will bring the number of Polaris armed submarines up to the total of 41 planned.

19 " Lafayette " Class

7 *Electric Boat Division, General Dynamics Corporation*
SSBN 616 LAFAYETTE
SSBN 617 ALEXANDER HAMILTON
SSBN 623 NATHAN HALE

SSBN 626 DANIEL WEBSTER
SSBN 628 TECUMSEH
SSBN 631 ULYSSES S. GRANT
SSBN 633

6 *Newport News Shipbuilding and Dry Dock Company*
SSBN 622 JAMES MONROE
SSBN 625 HENRY CLAY
SSBN 627 JAMES MADISON
SSBN 630 JOHN C. CALHOUN
SSBN 632
SSBN 635

4 *Mare Island Naval Shipyard, California*
SSBN 619 ANDREW JACKSON
SSBN 624 WOODROW WILSON
SSBN 629 DANIEL BOONE
SSBN 634 STONEWALL JACKSON

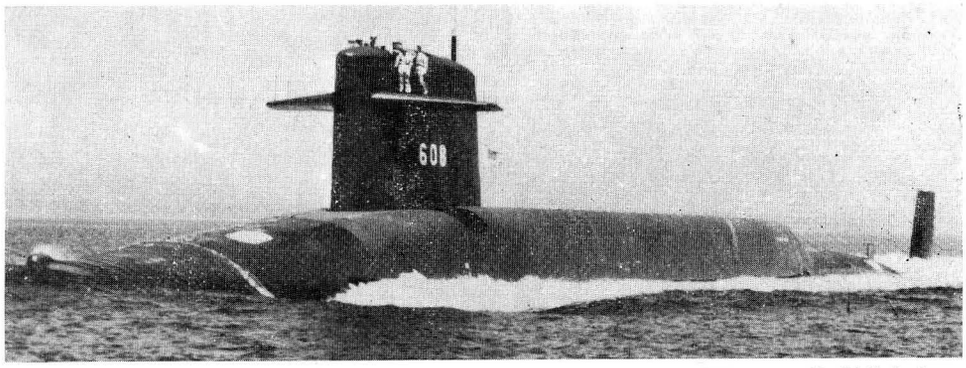
2 *Portsmouth Naval Shipyard*
SSBN 620 JOHN ADAMS
SSBN 636 NATHANAEL GREENE

Displacement:	7,000 tons *standard* (8,200 tons *submerged*)
Dimensions:	Length: 425 feet
Guided missiles:	16 A-3 model "Polaris" tubes amidships. Range 2,875 miles.
Torpedo Tubes:	4—21 inch forward
Machinery:	1 pressurised water cooled nuclear reactor. Geared turbines
Complement:	100

Notes

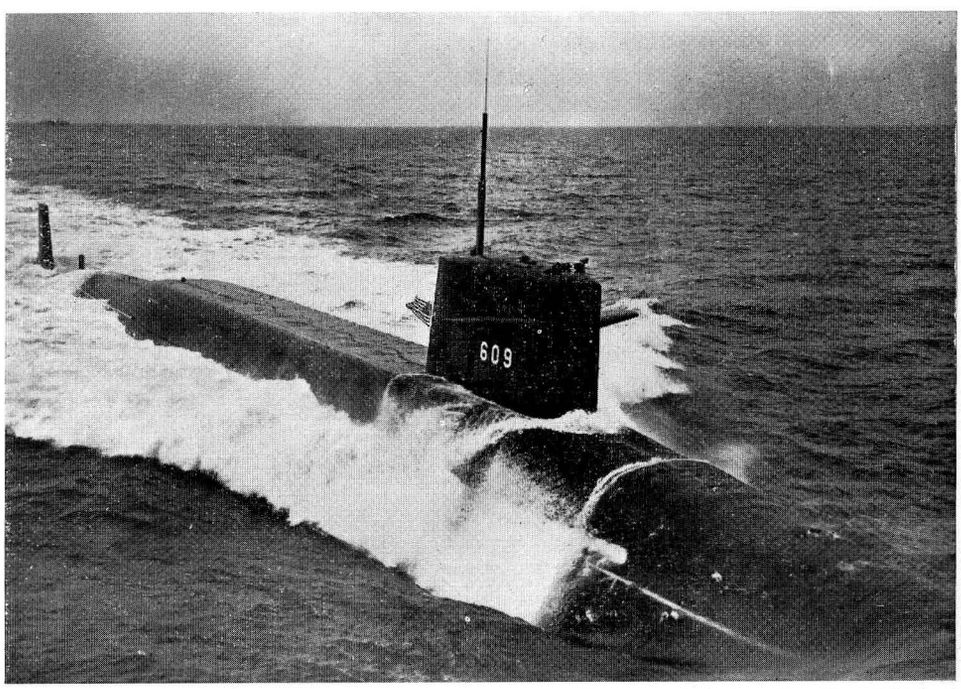
These latest " Polaris " missile submarines will be the largest undersea craft ever built, it was officially stated by the U.S. Navy on 2 Aug. 1960. *Lafayette*, named after the French aristocrat who served with Washington in the American Revolution, is the prototype and lead ship of the third class of " Polaris " missile submarine.s Construction plans and design were awarded to the Electric Boat Division, Groton, Connecticut, on 24 Mar. 1960. She was laid down on 17 Jan. 1961 and launched on 8 May, 1962; *Alexander Hamilton* was launched on 18 Aug. 1962. *Andrew Jackson* was laid down on 26 Apr. 1961 for launching on 15 Sep. 1962 *Nathan Hale* was laid down on 2 Oct. 1961 for completition in Oct. 1963. *Henry Clay* was laid down on 23 Oct. 1961, *Daniel Webster* on 28 Dec. 1961, *Daniel Boone* on 6 Feb. 1962, *James Madison* on 5 Mar. 1962. *Nathanael Greene* on 21 May 1962, *Tecumseh* on 1 June 1962, *John C. Calhoun* on 4 June 1962, *Stonewall Jackson* on 4 July 1962.

In the Fiscal Year 1960 long lead items were requested for three SSBN to be built under the Fiscal Year 1961 Program which were duly authorised with two more (full funds) together with long lead items for seven more. To cost $109,500,000 each. The "Polaris" missiles are to be launched from 16 vertical launchers within the submarine's hull.



ETHAN ALLEN

1962, *courtesy Mr. W. H. Davis*



SAM HOUSTON

1962, *United States Navy, Official*

5 " Ethan Allen " Class

2 *Electric Boat Division, General Dynamics Corporation*
SSBN 608 ETHAN ALLEN
SSBN 610 THOMAS A. EDISON

3 *Newport News Shipbuilding and Dry Dock Company*
SSBN 609 SAM HOUSTON
SSBN 611 JOHN MARSHALL
SSBN 618 THOMAS JEFFERSON

Displacement:	6,900 tons *standard* (8,000 tons *submerged*)
Dimensions:	Length: 410 feet. Beam: 34 feet
Guided missiles:	16 " Polaris " tubes amidships for A-2 model missiles, range 1,725 miles
Torpedo Tubes:	4—21 inch forward
Machinery:	1 Westinghouse pressurised water cooled nuclear reactor. Geared turbines. 1 shaft. Speed = 20 kts. (*surface*). 35 kts. (*submerged*)
Complement:	100 (10 officers, 90 men)

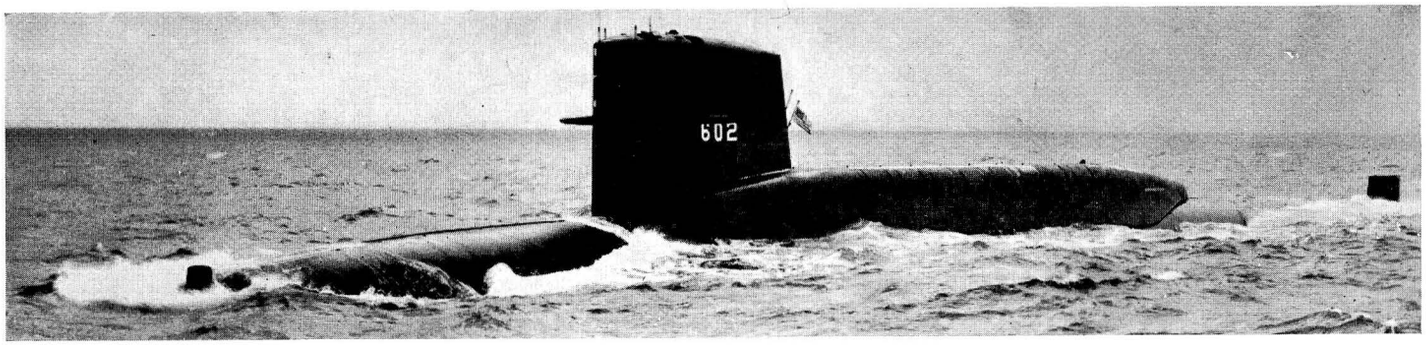
General Notes

Ethan Allen was the lead ship in a new class of fleet ballistic missile submarines, larger than the " George Washington " class, with a new hull design. She cost $105,000,000. She is of a larger and much improved type over the first group of SSBNs. One big difference is that the hull has been specially designed to accommodate the guided missiles, whereas the hulls of the first five SSBNs were adapted from existing hull designs. Contracts for *Sam Houston*, *Thomas A. Edison* and *John Marshall*, were awarded on 1 July 1959.

Engineering Notes

General Electric turbines in *Ethan Allen* and *Thomas A. Edison*, Westinghouse in others.

Name	*Laid down*	*Launched*	*Completed*
Ethan Allen	14 Sep. '59	22 Nov. '60	8 Aug. '61
John Marshall	4 Apr. '60	15 July '61	21 May '62
Sam Houston	28 Dec. '59	2 Feb. '61	6 Mar. '62
Thomas A. Edison	15 Mar. '60	15 June '61	10 Mar. '62
Thomas Jefferson	3 Feb. '61	24 Feb. '62	



ABRAHAM LINCOLN

1961, *United States Navy, Official*

Nuclear Powered Fleet Ballistic Missile Submarines (SSBN)

5 "George Washington" Class

2 *Electric Boat Division General Dynamic Corporation*

SSB (N) 598
GEORGE WASHINGTON

SSB (N) 599
PATRICK HENRY

1 *Mare Island Naval Shipyard, California*

SSB (N) 600
THEODORE ROOSEVELT

1 *Newport News*

SSB (N) 601
ROBERT E. LEE

1 *Portsmouth Naval Shipyard*

SSB (N) 602
ABRAHAM LINCOLN

Displacement:	5,600 tons *standard* (6,700 tons *submerged*)
Dimensions:	Length: 382 feet. Beam: 33 feet. Draught: 29 feet
Guided missiles:	16 " Polaris " tubes amidships for A-1 model missiles (28 feet long, 50 ins. diam., 15 tons weight, with nuclear warheads, and a range of 1,380 miles), capable of being launched while surfaced or submerged.
Tubes:	4—21 inch forward
Machinery:	1 water-cooled nuclear reactor by Westinghouse. General Electric geared turbines. 1 shaft. Speed =20 kts. *surface*, 35 kts., *submerged*
Complement:	112 (12 officers, 100 men). These SSBNs have two complete crews assigned designated " Blue " and " Gold " which relieve each other approximately every three months

General Notes

The First 1957-58 Supplemental New Construction Program signed on 11 Feb. 1958 provided $296,000,000 for the construction of three nuclear powered guided missile submarines armed with " Polaris " fleet ballistic weapons. They have " Albacore " type hull configuration, giving them high underwater speed, and are equipped with " SINS ", the U.S. Navy's revolutionary new navigational system, and with new stabilising and electronics apparatus incorporating the most recent engineering advances. These three submarines are designed specifically for carrying and launching the " Polaris " missile, to be fired with submarine submerged, vertically from within the submarine. " Subroc" anti-ship missiles to be fired through torpedo tubes. They differ from nuclear powered submarines now under construction chiefly in their missile features. Ordered on 14 Feb. 1958. This class have an auxiliary diesel engine and batteries, both of which can be used for emergency propulsion.

In 1961 *Patrick Henry* set up a new world underwater cruising record of 66 days 22 hours, bettering by 12 hours the previous record held by *George Washington*.

In Apr. 1958 funds were requested for two more nuclear powered fleet ballistic missile submarines for carrying the " Polaris " missile, under the Second 1957-58 Supplemental New Construction Program. They have whale-shaped hulls. Six submarines of this class were authorised by Congress. Two were awarded in July 1958. SSBNs 598-602 are of modified " Skipjack " design with a 128-ft. missile launching section inserted.

Guided Missile Notes

George Washington successfully fired the solid-fuelled " Polaris " missile for the first time from a submerged position on 20 July 1960.

The sixteen launching tubes are arranged in double vertical rows along the after deck abaft the " sail " (conning tower fin). The gyrostabiliser has an 8 ft. diameter wheel with a weight of 22 tons and a total weight of 50 tons. All sixteen missiles can be fired in fifteen minutes.

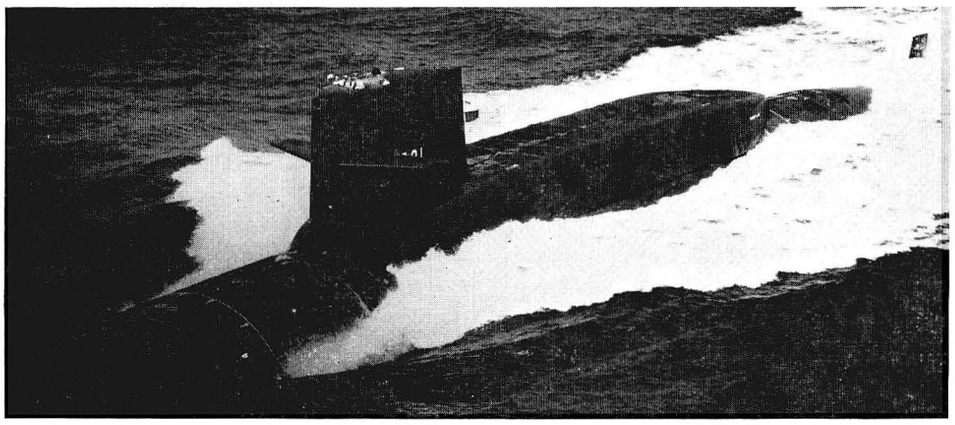
Photograph Notes

A large starboard broadside surface view of *George Washington* and a port quarter oblique aerial view of *Patrick Henry* appear in the 1960-61 and 1961-62 editions.

Nomenclature Notes

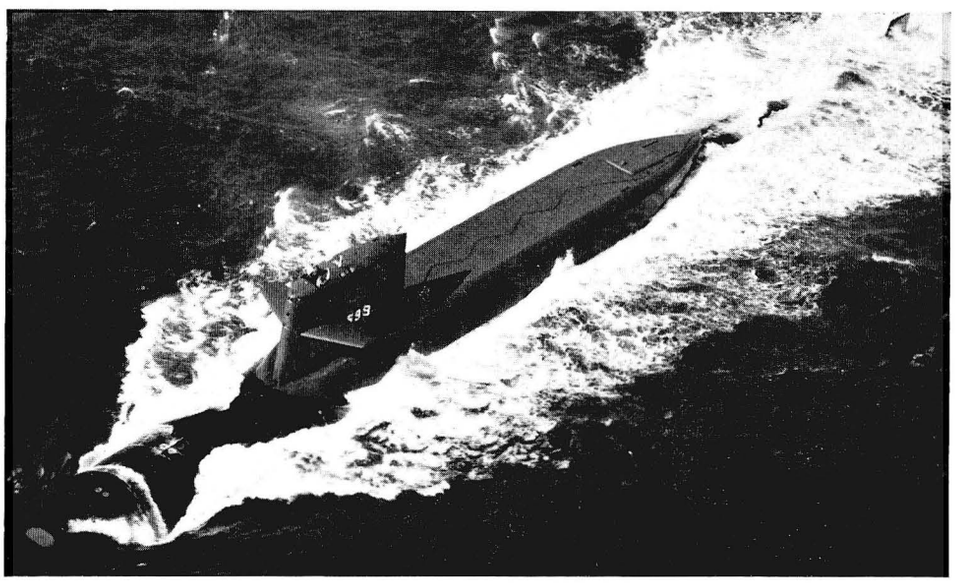
All fleet ballistic missile submarines, nuclear powered and armed with " Polaris " weapons, are named after famous men in United States history.

Name	*Laid down*	*Launched*	*Completed*
Abraham Lincoln	1 Nov. '58	14 May '60	31 Jan. '61
George Washington	1 Nov. '57	9 June '59	15 Nov. '59
Patrick Henry	27 May '58	22 Sep. '59	7 Mar. '60
Robert E. Lee	25 Aug. '58	18 Dec. '59	31 Sep. '60
Theodore Roosevelt	20 May '58	3 Oct. '59	12 Dec. '60



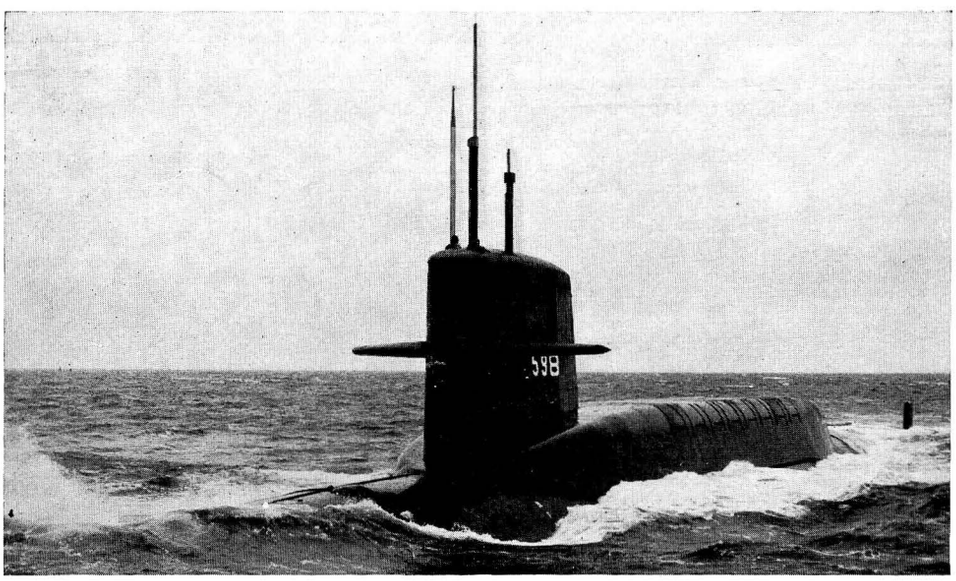
ROBERT E. LEE

1961, *United States Navy, Official*



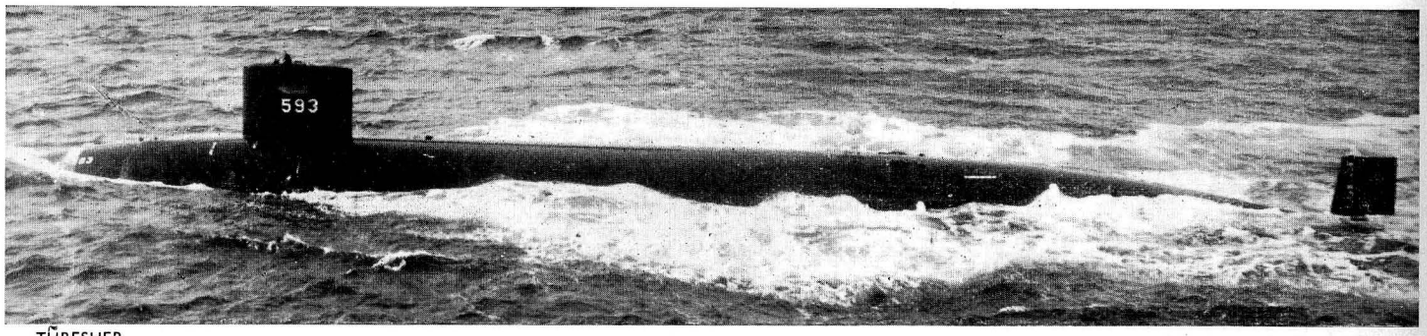
PATRICK HENRY

1960, *United States Navy, Official*



GEORGE WASHINGTON

1960, *Electric Boat Division, General Dynamics Corporation*



THRESHER

1962, *United States Navy, Official*

Nuclear Powered Attack Submarines (SSN)

17+8 " Thresher " Class

1 Bethlehem Steel Co., Quincy
SSN 638
4 Electric Boat Division, General Dynamics Corporation
SSN 613 FLASHER
SSN 614 GREENLING
SSN 615 GATO
SSN 637

4 Ingalls Shipbuilding Corporation, Pascagoula, Mississippi
SSN 596 BARB (ex-*Pollack*, ex-*Plunger*)
SSN 607 DACE
SSN 621 HADDOCK
SSN 639

2 Mare Island Naval Shipyard, California
SSN 594 PERMIT
SSN 595 PLUNGER (ex-*Pollack*)

3 New York Shipbuilding Corporation, Camden, New Jersey
SSN 603 POLLACK (ex-*Barb*)
SSN 604 HADDO
SSN 612 GUARDFISH

3 Portsmouth Naval Shipyard, New Hampshire
SSN 593 THRESHER
SSN 605 JACK
SSN 606 TINOSA

Displacement: 3,750 tons *standard* (4,300 tons *submerged*)
Dimensions: Length: 279 feet. Beam: 32 feet. Draught: 29 feet
Tubes: 4—21 inch amidships
A/S weapons: SUBROC (submarine rocket) combination torpedo and ballistic missile (see *A/S Notes*)
Machinery: 1 Westinghouse pressurised water cooled nuclear reactor. 1 set General Electric geared turbines (Westinghouse in *Barb, Dace, Haddock, Permit, Plunger*; De Laval in *Tinosa*). 1 shaft. Speed: 20 kts. (*surface*), 35 kts. (*submerged*)
Radius: 60,000 miles without refueling
Complement: 94 (9 officers, 85 men)

General Notes
Thresher, launched bow first, was the prototype of this class. Of improved design with " tear-drop " hull configuration. Diving planes attached to the " sail " or conning tower fin, instead of the bow, as usual, to improve manoeuvrability. Torpedo tubes set in both sides of the hull amidships instead of in the bow. Capable of diving deeper and running more quietly at high speeds than any other U.S. submarines. Diving and steering operations controlled automatically through push buttons. Cost $49,000,000 to $57,000,000 each.

Shipbuilding Program Year
1957: *Thresher*. 1958: *Barb, Permit, Plunger*. 1959:*Dace, Haddo, Jack, Pollack, Tinosa*. 1960: *Flasher, Gato, Greenling, Guardfish*. 1961: *Haddock*. 1962: SSN 637, SSN 638, SSN 639 Eight more SSN of the " Thresher " class are requested in the 1963 new construction program.

A/S Notes
Permit is to fire the first submarine tests of SUBROC early in 1963. This anti-submarine missile is fired from a conventional 21-inch torpedo tube after which it streaks for the surface, leaves the water in a ballistic trajectory and then re-enters several miles from the launching submarine. Back in the water, SUBROC becomes a submarine hunting torpedo. Either a high explosive or nuclear warhead can be fitted. Designed to give the new " Thresher " class submarines a potent weapon to make maximum use of their long range sonar. Unofficial estimates of SUBROC'S range vary from 10 to 25 miles.

Nomenclature Notes
The name of SSN 596 was changed from *Plunger* to *Pollack* on 28 Apr. 1959 and again changed to *Barb* on 23 July 1959. The name of SSN 603 was changed from *Barb* to *Pollack* on 23 July 1959.

Name	*Laid down*	*Launched*	*Completed*
Barb	9 Nov. 1959	12 Feb. 1962	
Dace	6 June 1960		
Flasher	14 Apr. 1961		
Gato	15 Dec. 1961		
Greenling	15 Aug. 1961		
Guardfish	13 Feb. 1961		
Haddo	9 Sep. 1960	18 Aug. 1962	
Haddock	24 Apr. 1961		
Jack	16 Sep. 1960		
Permit	16 July 1959	1 July 1961	6 June 1962
Plunger	2 Mar. 1960	9 Dec. 1961	
Pollack	14 Mar. 1960	17 Mar. 1962	
Thresher	28 May 1958	9 July 1960	3 Aug. 1961
Tinosa	24 Nov. 1959	9 Dec. 1961	

Nuclear Powered Hunter-Killer Submarine (SSN)

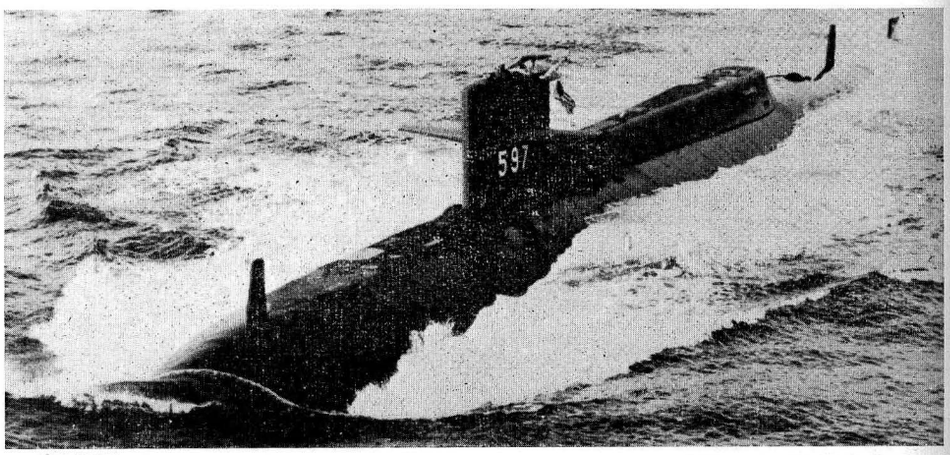
1 Electric Boat Division, General Dynamics Corporation
SSN 597 TULLIBEE

Displacement: 2,175 tons *standard* (2,600 tons *submerged*)
Dimensions: 261 × 29 × 20 feet
Tubes: 4—21 inch amidships
Machinery: Combustion Engineering water-cooled SIC nuclear reactor. Westinghouse turbines. Turbo-electric drive. 1 shaft. S.H.P.: 2,500=20 kts. (*surface*), 25 kts. (*submerged*)
Complement: 56 (6 officers, 50 men)

General Notes
Built under the 1958 program. Designed as an anti-submarine submarine. Speed is secondary to manoeuvrability. She has an " Albacore " type hull. Laid down on 26 May 1958, launched on 27 Apr. 1960 and commissioned on 9 Nov. 1960. She is described as the " closest thing to a true submersible."

Sonar Notes
Equipped with the latest scientific sonar tracking apparatus, and unique sound-proofing. The placing of the torpedo tubes amidships allows for an unprecedented number of sonar tracking transducers and hydrophones in the bow area which provides " ears " for detecting enemy submarines.

Design Notes
Her design is based on the shape of a whale, with a bow configuration of " tear-drop " form, and her diving planes project from the " sail " (fin-shaped conning tower).



TULLIBEE

1962, *courtesy Mr. W. H. Davis*

Engineering Notes
Prototype reactor built by Reactor Division of Combustion Engineering, Windsor, Connecticut. The machinery comprises turbo-electric drive instead of reduction gears as in other nuclear powered submarines.

It is officially stated that the *Tullibee* has been designed to take full advantage of nuclear power in a high speed, highly manoeuvrability submarine that can operate submerged to the limit of her crew's endurance.

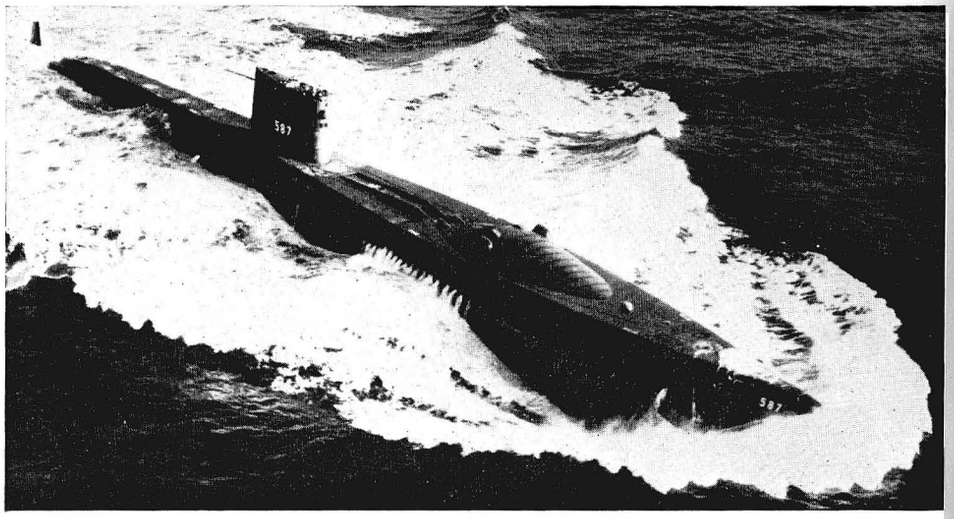
Nuclear Powered Guided Missile Submarine SSG (N)

1 " Halibut " Class

1 Mare Island Naval Shipyard, California
SSG (N) 587 HALIBUT

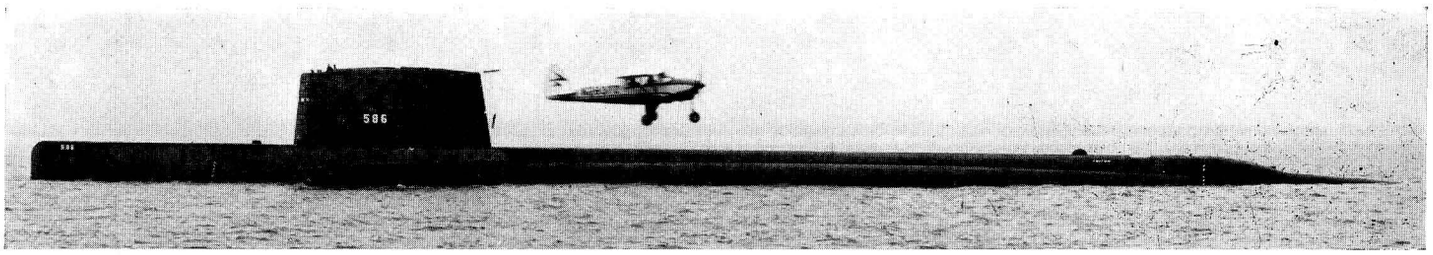
Displacement: 3,655 tons *standard* (5,000 tons *submerged*)
Dimensions: 350 × 29 × 29 feet
Tubes: 4—21 inch
Guided missiles: " Regulus " fired from the surface.
Machinery: Westinghouse water-cooled nuclear reactor. 2 Westinghouse geared turbines. 2 shafts. Speed:=18 kts. (*surface*), 25 kts. (*submerged*)
Complement: 90

Notes
Provided under the 1956 Naval Appropriations. This submarine was originally designed as a diesel powered ship but it was announced on 27 Feb. 1956 that she would be nuclear powered instead of having conventional propulsion. She will be fitted to handle " Regulus I " guided missiles. The U.S. Navy's first guided missile, nuclear powered submarine and the first ever designed from the keel up as a guided missile carrier. Her hull is designed primarily to provide a stable launching platform, rather than for speed or manoeuvrability. Laid down on 11 Apr. 1957, launched on 9 Jan. 1959, and commissioned on 4 Jan. 1960. She was to have carried " Regulus II " missiles, but the " Regulus II " project was cancelled. Cost: $45,000,000.



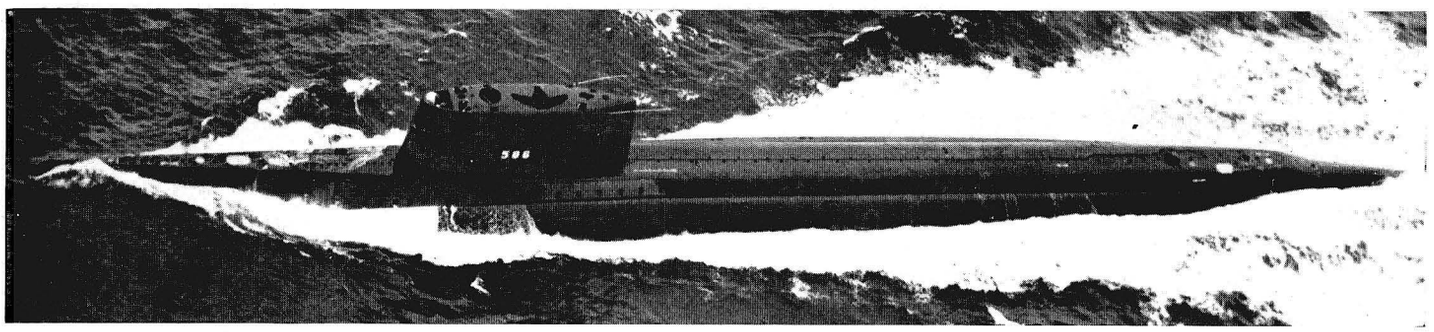
HALIBUT (first guided missile nuclear-powered submarine)

1960, *United States Navy, Official*



TRITON (despite appearances aircraft is not landing on deck—although the world's longest submarine she is not big enough to land fixed wing aircraft)

Added 1962, *Electric Boat Division, General Dynamics Corporation*



TRITON (looking down into the " sail ")

Added 1961, *courtesy General Electric Company, Schenectady (Engineers)*

Nuclear Powered Attack Submarine (SSN)
(Ex-Radar Picket Submarine SSRN)
1 Cruiser Type

1 *Electric Boat Division, General Dynamics Corporation, Groton, Conn.*

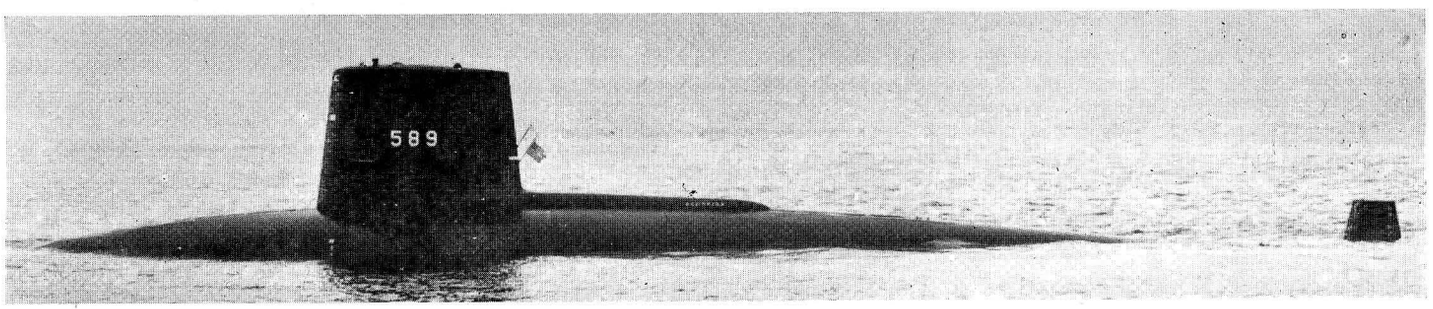
SSN 586 TRITON

Photograph Notes
A large port broadside surface view, a starboard bow oblique aerial view, and a starboard bow surface view appear in the 1960-61 and 1961-62 editions.

Displacement:	5,900 tons *standard* (7,750 tons *submerged*)
Dimensions:	Length: 447 feet. Beam: 37 feet. Draught: 25 feet
Tubes:	6—21 inch (4 forward, 2 aft)
Machinery:	2 General Electric water-cooled S3G nuclear reactors. 2 General Electric geared turbines. 2 shafts. Speed=30 kts. *surface* and *submerged*
Radius:	110,000 miles cruising range without refueling
Complement:	148 (13 officers and 135 men)

General Notes
The world's largest and most powerful submarine. Provided under the 1956 Naval Appropriation. Designed to serve as an early warning station for U.S. Navy task forces, and to keep up with the fastest aircraft carriers and destroyers. The United States Navy's first nuclear powered radar picket submarine and the largest submarine ever built, and the first to be powered with two nuclear reactors. Her design emphasised fast surface speed so that she could better accomplish her specialised duties. She has three deck levels within her hull. Laid down on 21 May 1956, launched on 19 Aug. 1958, and commissioned on 10 Nov. 1959. Cost $100,000,000. She circumnavigated the globe submerged in 1960 for 83 days and 41,500 miles at an average speed of 18 kts. She refueled in mid-1962 after steaming 110,000 miles.

Reclassification Notes
Triton was reclassified from SSRN to SSN in Mar. 1961.



SCORPION

1962, *United States Navy, Official*

Nuclear Powered Attack Submarines, SS(N)
6 " Skipjack " Class

2 *Electric Boat Division, General Dynamics Corporation*
SS(N) 585 SKIPJACK **SS(N) 589 SCORPION**

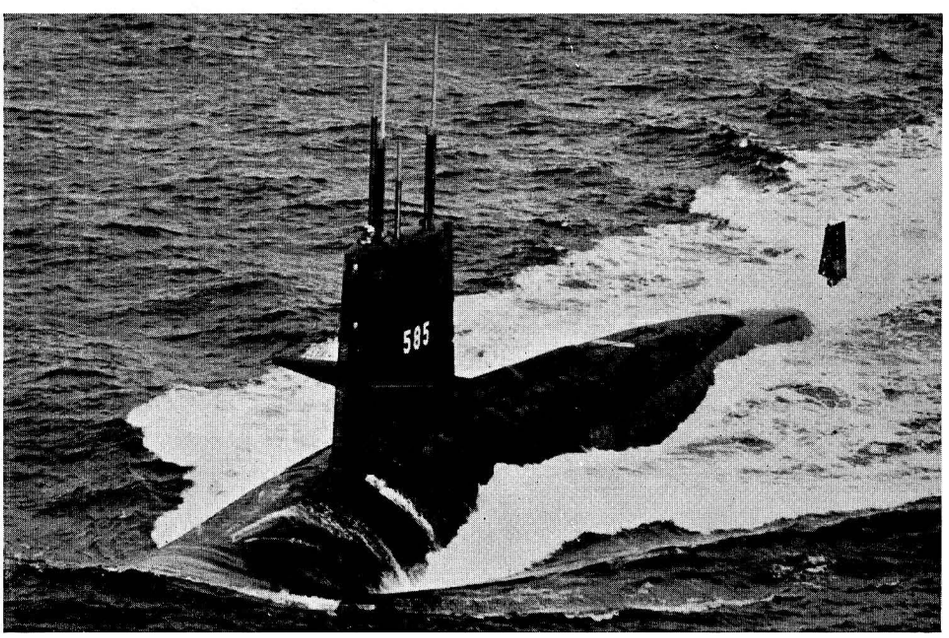
2 *Ingalis Shipbuilding Corporation, Pascagoula, Mississippi*
SS(N) 590 SCULPIN **SS(N) 592 SNOOK**

1 *Mare Island Naval Shipyard* 1 *Newport News Shipbuilding*
SS(N) 588 SCAMP **SS(N) 59 SHARK**

Displacement:	2,830 tons *surface* (3,500 tons *(submerged)*
Dimensions:	252 × 32 × 28 feet
Tubes:	6 bow (24 torpedoes carried)
Machinery:	Westinghouse pressurised water-cooled nuclear reactor. Westinghouse geared turbines in *Skipjack*, General Electric in others. 1 shaft. Speed: " in excess of 20 kts." *submerged*
Radius:	60,000 miles cruising without refueling
Complement:	83 (8 officers, 75 men)

Name	*Laid down*	*Launched*	*Completed*
Skipjack	29 May 1956	26 May 1958	8 Mar. 1959
Scamp	23 Jan. 1959	8 Oct. 1960	10 Apr. 1961
Scorpion	20 Aug. 1958	19 Dec. 1959	27 June 1960
Sculpin	3 Feb. 1958	31 Mar. 1960	28 Mar. 1961
Shark	24 Feb. 1958	16 Mar. 1960	6 Jan. 1961
Snook	7 Apr. 1958	31 Oct. 1960	4 Nov. 1961

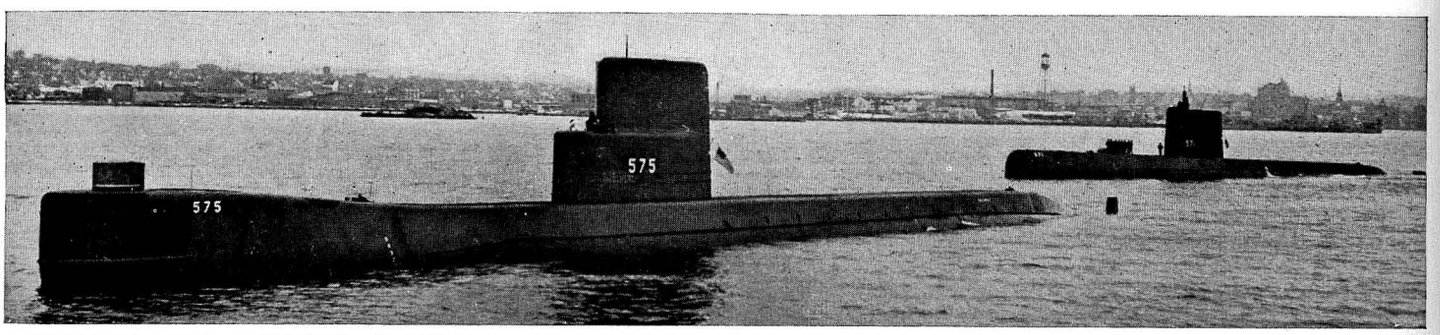
General Notes
Skipjack, the prototype of the class, which was built under the Fiscal Year 1956 program, has the " Albacore " type streamline hull configuration based on the shape of a whale, and a "tear-drop nose," and single screw propulsion, which, with her advanced power plant, gives her superior range, speed, and underwater manoeuvrability. She incorporates several novel features, including hydro-wings or diving planes fitted to the conning tower " fin," or " the sail," as the conning tower is now called on nuclear submarines, instead of being encumbered by bow hydroplanes. She has missile guidance capability. Maximum depth over 400 feet. Cost $40,000,000. *Scamp*, *Scorpion*, *Sculpin*, *Shark* and *Snook* were provided under the 1957 program. *Shark* has contact analog TV control system.



SKIPJACK

1959, *United States Navy, Official*

Engineering Notes
The five-bladed propellor provides maximum speed and manoeuvrability. On trials *Skipjack* made the highest speed ever attained by a submarine. She has auxiliary diesels for emergency propulsion.



SEAWOLF (foreground and NAUTILUS The world's first two nuclear powered submarines together (see below) 1957, *United States Navy, Official*

Nuclear Powered Attack Submarines SS(N)
4 "Skate" Class

1 *Electric Boat Division, General Dynamics Corporation*
SS(N) 578 SKATE

1 *Mare Island Naval Shipyard, California*
SS(N) 583 SARGO

2 *Portsmouth Naval Shipyard, New Hampshire*
SS(N) 584 SEADRAGON SS(N) 579 SWORDFISH

Displacement:	2,360 to 2,382 tons *standard* (2,861 tons *submerged*)
Dimensions:	268 (*o.a.*) × 25 (*extreme*) × 20 (*max.*) feet (officially revised figures)
Tubes:	6—21 inch (2 stern)
Machinery:	Westinghouse water-cooled nuclear reactor. Westinghouse geared turbines. Speed: 15 kts. (*surface*). 18 kts. (*submerged*). 2 shafts. Average underwater cruising speed of *Skate* = 19 kts.
Complement:	97 (*Sargo*), 83 (*Seadragon* and *Swordfish*), 9 officers, 86 men (*Skate*)

Notes

Skate was provided under the 1954 naval appropriations. *Swordfish* under 1955, *Sargo* and *Seadragon* under 1956. All these ships have stern diving planes, twin screws and a hull configuration similar to that of *Nautilus* and *Seawolf*. *Swordfish* was engined by Westinghouse. *Seadragon* is equipped with missile guidance gear. *Skate* completed the second submerged crossing of the North Pole on 9 Aug. 1958 after having held the (then) record of 32 days submerged; and she completed a 12-day sub-Polar cruise, surfacing on 17 Mar. 1959 at the North Pole. She steamed a record of 120,862 miles on her first core and was refueled for the first time after 39 months service in May 1961. *Seadragon* transited Northwest Passage east to west 15—21 Aug. 1960 (Atlantic to Arctic Ocean). *Skate* commissioned on 23 Dec. 1957, *Swordfish* on 15 Sep. 1958, and *Sargo* on 10 Oct. 1958. *Swordfish* refueled in Feb. 1962 after cruising 112,000 miles since 1958.

Photograph Notes

A port oblique aerial view of *Skate* appears in the 1958-59 to 1961-62 editions.

Name	*Laid down*	*Launched*	*Completed*
Sargo	21 Feb. 1956	10 Oct. 1957	1 Oct. 1958
Seadragon	20 June 1956	16 Aug. 1958	5 Dec. 1959
Skate	21 July 1955	16 May 1957	31 Jan. 1958
Swordfish	25 Jan. 1956	27 Aug. 1957	1 Oct. 1958

Prototype Nuclear Powered Submarines SS(N)
2 Experimental Types

2 *Electric Boat Division, General Dynamics Corporation*
SS(N) 575 SEAWOLF

Displacement:	3,260 tons *standard* (4,110 tons *submerged*)
Dimensions:	330 (*o.a.*) × 30 × 22 (*max*) feet
Tubes:	6—21 inch
Machinery:	Water-cooled nuclear reactor (see *Engineering Notes*). General Electric geared turbines. S.H.P.: 15,000 = 18·8 kts. (*surface*), over 20 kts. (*submerged*)
Range:	70,000 miles cruising
Complement:	102 (10 officers, 92 men)

General Notes

Seawolf was ordered on 19 July 1952, and engined by the General Electric Company. First trials were carried out on 21 Jan. 1957. Building dates in table below.

Engineering Notes

The sodium cooled intermediate reactors originally manufactured by the General Electric Company were replaced by water-cooled reactors manufactured by the Westinghouse Electric Corporation, similar to those installed in the *Nautilus*. She steamed 71,609 miles in 23 months on her first, sodium-cooled, core. She underwent her reactor conversion at the Electric Boat Division of the General Dynamics Corporation, Groton, Connecticut, at a cost of $20,000,000. Conversion work started on 13 Dec. 1958, lasting 11-13 months, and she recommissioned on 30 Sep. 1960.

SS(N) 571 NAUTILUS

Displacement:	3,180 tons *standard* (3,747 tons *submerged*)
Dimensions:	320 (*o.a.*) × 28 × 22 (*max.*) feet
Tubes:	6—21 inch
Machinery:	Westinghouse pressurised water-cooled reactor. Westinghouse geared turbines. 2 shafts. S.H.P.: 13,400 = 23 kts.
Range:	40,000 miles
Complement:	101 (12 officers, 89 men)

General Notes

Nautilus was engined by the Westinghouse Electric Corporation. She was commissioned on 30 Sep. 1954 and carried out her first trials on 17 Jan. 1955. Designed to travel faster under water than on the surface. Her prow is bulbous to obtain better underwater performances compared with conventional submarines designed for top speed on surface and which have knife blade prows. Diving depth 700 feet. The world's first nuclear powered ship.

Engineering Notes

Nautilus has three engine room deck levels, propulsion by either atomic power, diesel or electric motors. She refuelled for the first time in 1957 after 26 months and travelling 69,138 miles on the original core of enriched uranium. The second reactor was pulled and replaced in 1959 during routine overhaul after 26 months and steaming 93,000 miles, of which 78,885 was under water.

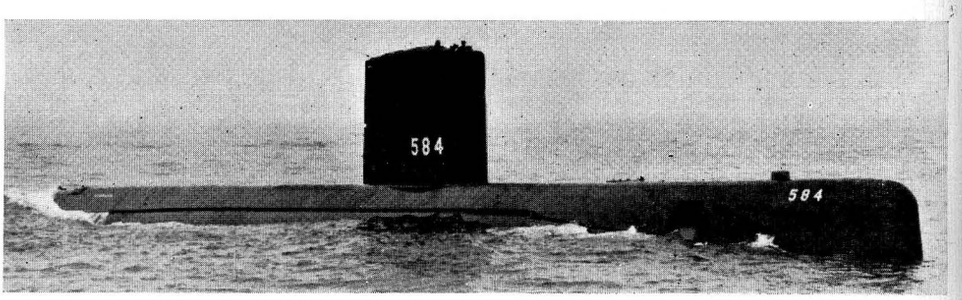
Endurance Notes

Nautilus made the first submerged crossing of the North Pole on 3 Aug. 1958. *Seawolf* broke the record when she remained submerged for 60 days in the Atlantic from 6 Aug. to 6 Oct. 1958, cruising 15,700 miles.

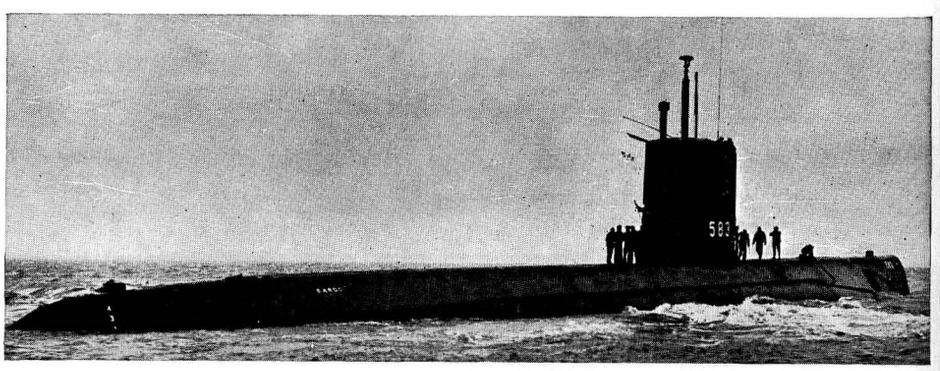
Photograph Notes

Aerial and surface port bow views of *Nautilus* appear in the 1955-56 to 1957-58 editions, and a starboard quarter oblique surface view in the 1958-59 to 1961-62 editions. A port bow surface view of *Seawolf* appears in the 1957-58 to 1960-61 editions.

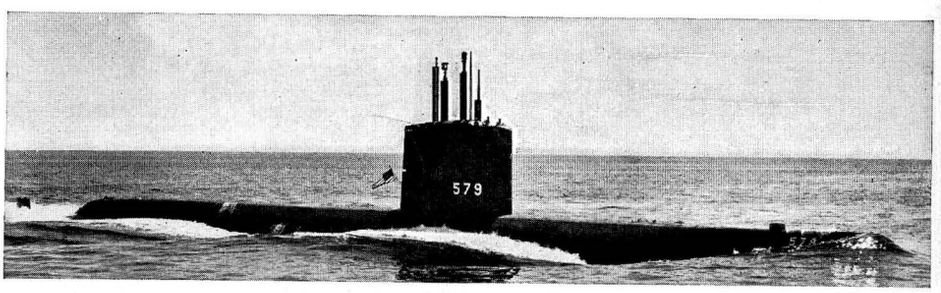
Name	*Laid down*	*Launched*	*Completed*
Nautilus	14 June 1952	21 Jan. 1954	22 Apr. 1955
Seawolf	15 Sep. 1953	21 July 1955	30 Mar. 1957



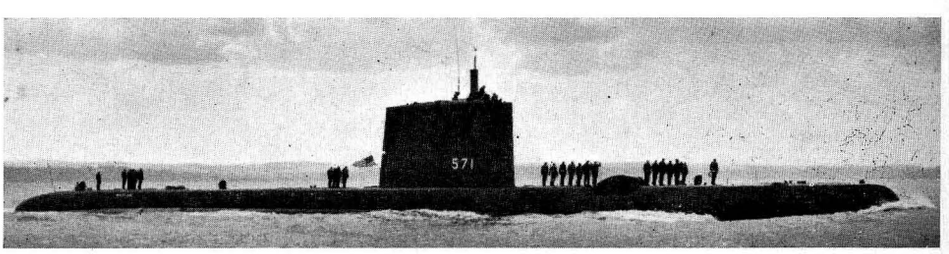
SEA DRAGON 1962, *United States Navy, Official*



SARGO 1959, *United States Navy, Official*



SWORDFISH 1959 *United States Navy ,Official*



NAUTILUS 1962, *Wright & Logan*

Guided Missile Submarines (SSG)

2 "Grayback" Class

1 *Mare Island Naval Shipyard* 1 *Portsmouth Naval Shipyard*

SSG
574 GRAYBACK

SSG
577 GROWLER

Displacement:	*Grayback* 1,740 tons *light*, 2,287 tons *surface*, 3,638 tons *submerged*. *Growler* 1,620 tons *light*, 2,174 tons *surface*, (2,500 tons in diving trim), 3,387 tons *submerged*.
Dimensions:	*Grayback*: 322⅓ (*o.a.*) × 30 × 17⅓ (*mean*) feet. *Growler*: 317½ (*o.a*) × 27½ × 17 (*mean*) feet
Guided Missiles:	"Regulus"
Machinery:	3 Fairbanks Morse diesels. 2 shafts. S.H.P.: 3,100=20 kts. *surface*. Elliott electric motors=18 kts. *submerged*
Complement:	*Grayback*: 85 officers and men *Growler*: 96 (9 officers and 87 men

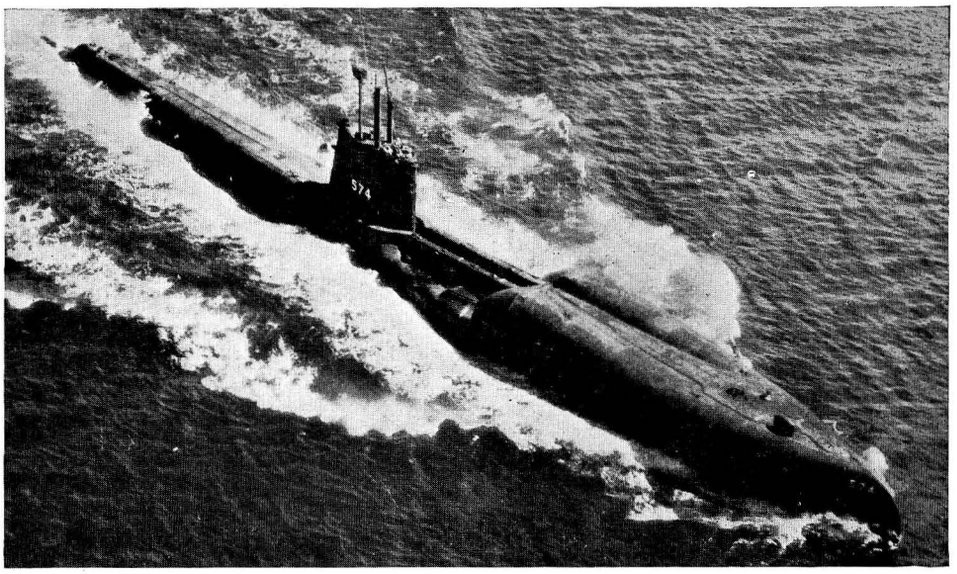
General Notes

Grayback, a new design attack submarine with streamlined Guppy snorkel equipment and a conventional engine of improved design, was ordered on 19 June 1952 and commissioned on 7 Mar. 1958. *Growler* was commissioned on 30 Aug. 1958. They were originally scheduled to be attack submarines, but they were changed to missile launching submarines after the start of construction. They will handle "Regulus I" guided missiles from twin cylinder shaped hangars faired into the upper forward hull.

Operational Notes

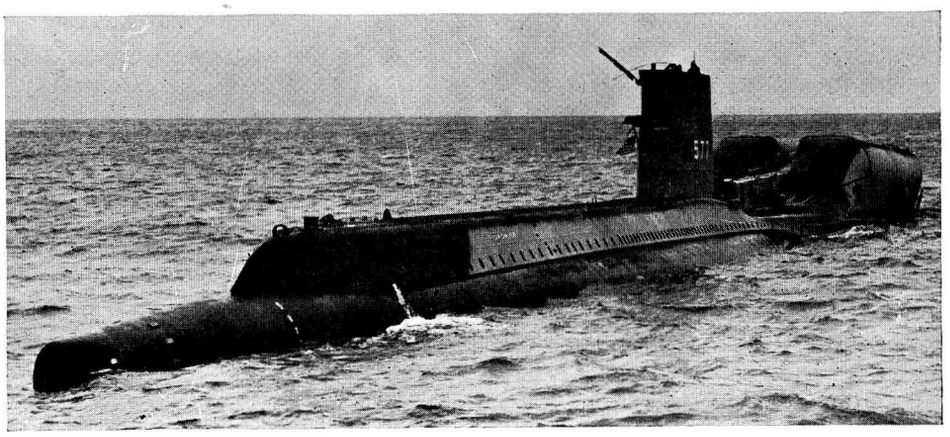
Official statement: "*Grayback* is the Navy's first submarine built expressly with guided-missile capability. Other submarines have been converted with deck-top hangars to fire "Regulus," but *Grayback* is the first submarine built to carry and fire "Regulus." *Grayback* is one of the Navy's largest submarines. The "Regulus" missiles which she will carry are capable of striking more than 1,000 miles inland with nuclear warheads. Her missile capability is built in. Twin cylinder-shaped hangars, faired into the upper hull forward, will contain the missiles. Immediately aft of the hangars is the launching platform from which "Regulus" will be fired. The missile firings will be tests simulating the attacks submarines can make on inland enemy targets. The missile hangars give *Grayback* a slightly different hull conformation, an improvement over the present *Tang* class fast attack submarines and streamlined to assure high underwater speed. *Grayback* is conventionally-powered and equipped with high-capacity batteries. She has all the usual offensive capabilities of an attack submarine, including extensive anti-submarine warfare equipment. She will have performance characteristics equal to the most modern non-nuclear attack submarine. *Grayback* will roam the oceans of the world, ready to surface at any time and automatically slide the "Regulus" missile from a cell buried in her hull into firing position. Within moments after surfacing she will fire the missile, then dive immediately. Strong seas and winds and foul weather will not handicap the missile firings." (*Grayback* and *Growler* were to have handled "Regulus II" missiles, but the "Regulus II" project was cancelled for economy reasons.)

Grayback was built under the 1953 Fiscal Year program and *Growler* under the 1955 program. It was announced on 27 Feb. 1956 that they would be completed as guided missile submarines for launching "Regulus" surface-to-surface weapons.



GRAYBACK

1959, *United States Navy, Official*



GROWLER

1959, *United States Navy, Official*

Name	*Laid down*	*Launched*	*Completed*
Grayback	1 July 1954	2 July 1957	31 July 1958
Growler	15 Feb. 1955	5 Apr. 1958	15 Dec. 1958

High Speed Attack Submarines (SS)

3 "Barbel" Class

1 *Portsmouth Naval Shipyard, New Hampshire*
SS 580 BARBEL

1 *Ingalls Shipbuilding Corporation, Pascagoula, Mississippi*
SS 581 BLUEBACK

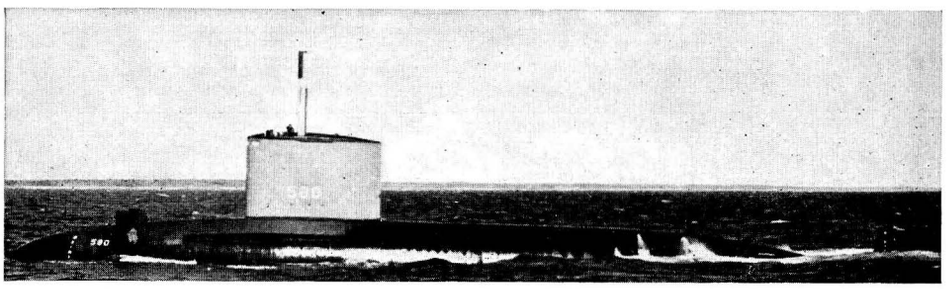
1 *New York Shipbuilding Corporation, Camden, New Jersey*

SS 582 BONEFISH

Displacement:	1,690 tons *light*, 1,750 tons *standard*, 2,637 tons *submerged*
Dimensions:	219 × 29 × 19 feet
Machinery:	3 Fairbanks Morse diesels. Electric drive. 1 shaft. Speed: 15 kts. *surface*, 25 kts. *submerged*
Complement:	78 (8 officers, 70 men)

Notes

Provided under the 1956 Naval Appropriations. They have the "Albacore" type hull configuration. Equipped with missile guidance gear. These were the last conventionally powered submarines to join the United States Fleet (*all subsequent submarines are nuclear powered*). They have greater underwater attack capabilities. *Barbel* was commissioned on 17 Jan. 1959. *Blueback* was delivered to the Navy on 3 June 1960. The bow planes in *Barbel* now extend from the "sail."



BARBEL

1959, *United States Navy, Official*

Name	*Laid down*	*Launched*	*Completed*
Barbel	18 May 1956	19 July 1958	1 Apr. 1959
Blueback	15 Apr. 1957	16 May 1959	3 June 1960
Bonefish	3 June 1957	22 Nov. 1958	11 July 1959

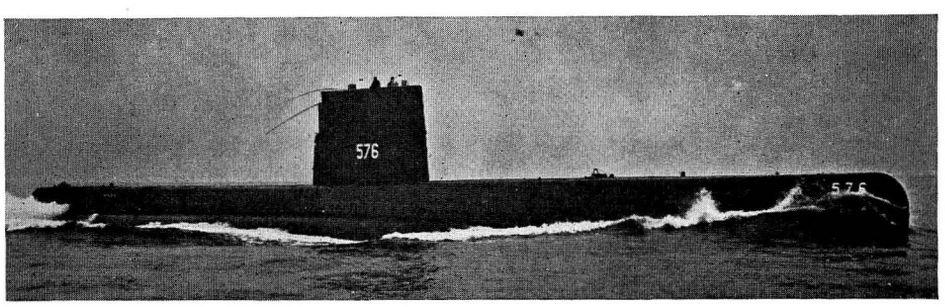
1 Improved "Tang" Class

1 *Electric Boat Division, General Dynamics Corporation*
SS
576 DARTER (28 May 1956)

Displacement:	1,622 tons *light*, 1,720 tons *surface*, 2,388 tons *submerged*
Dimensions:	268⁷/₁₂ (*o.a.*) × 27⅓ × 17 (*mean*) feet
Tubes:	21 inch
Machinery:	Fairbanks Morse diesels. 2 shafts. S.H.P.: 4,000=17 kts. (*surface*); Elliott electric motors=25 kts. (*submerged*)
Complement:	83

Notes

Darter, reported to be designed for significantly higher underwater speed than SSNs, operated from a central console adjacent to the sound proof diesel engine room, equipped with snorkel, laid down on 10 Nov. 1954, launched on 28 May 1956, and commissioned on 20 Oct. 1956. Officially described as the "quietest submarine of all time."



DARTER

1958 *U.S. Navy, Official*

Attack Submarines (SS)

Ex-Radar Picket Submarines (SSR)

2 "Sailfish" Class

2 *Portsmouth Navy Shipyard*

SS
572 SAILFISH

SS
573 SALMON

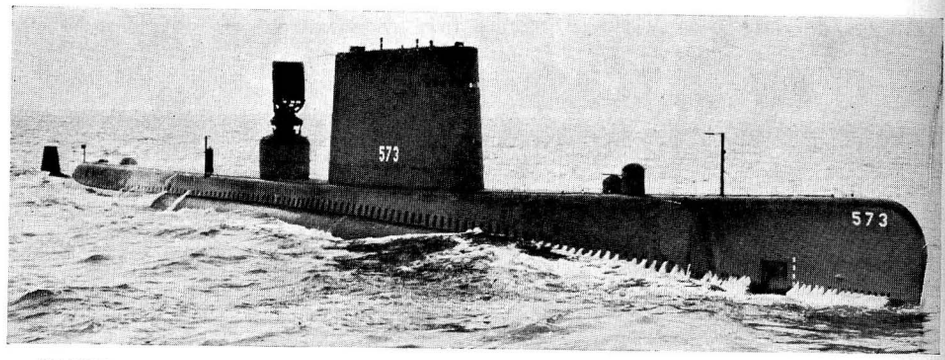
Displacement:	1,990 tons *standard* 2,425 tons (*surface*), 3,168 tons *submerged*
Dimensions:	350½ (*o.a.*) × 29 × 16⅓ (*mean*) feet
Tubes:	6—21 inch (all forward). 12 torpedoes stowed
Machinery:	Fairbanks Morse diesels. 2 shafts. S.H.P.: 6,000=20·5 kts. (*surface*); Elliott electric motors=10 kts. (*submerged*)
Complement:	95

General Notes
Ordered on 27 Feb. 1952. Fitted with an air control centre. Commissioned 14 Apr. 1956 and 25 Aug. 1956, respectively.

Conversion Notes
In 1959 *Salmon* was modified, at the expense of some search radar, to serve as a missile guidance submarine as well as a radar picket. The deck mounted radar was removed in 1961.

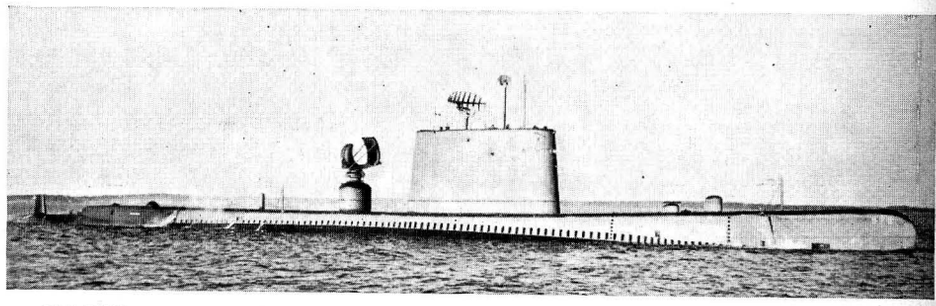
Reclassification Notes
Both were reclassified as SS in Mar. 1961.

Name	*Laid down*	*Launched*	*Completed*
Sailfish	8 Dec. 1953	7 Sep. 1955	Sep. 1956
Salmon	10 Mar. 1954	25 Feb. 1956	Dec. 1956



SALMON

1959, *United States Navy, Official*



SAILFISH

Added 1958, *U.S. Navy, Official*

High Speed Target Submarine (AGSS)

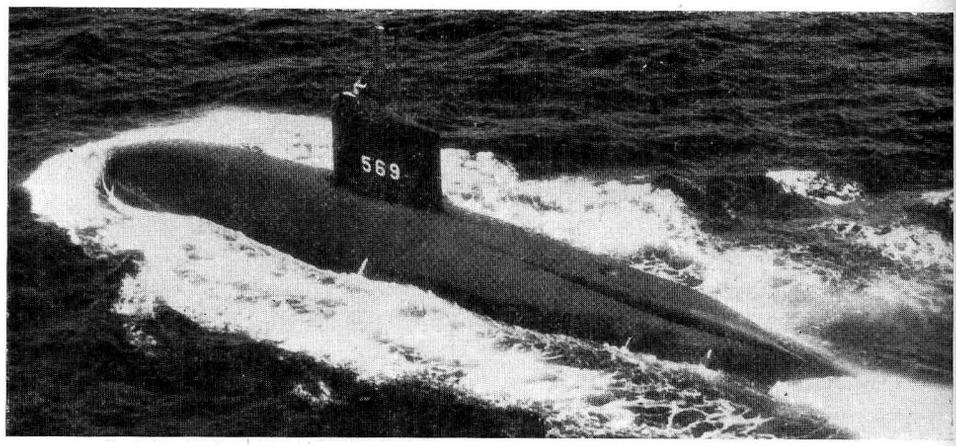
1 Experimental Prototype

AGSS
569 ALBACORE

Displacement:	1,100 tons (*nominal*), 1,218 tons *standard*, 1,847 tons *submerged*
Dimensions:	203⅝ (*o.a.*) × 27½ × 18$\frac{7}{12}$ (*mean*) feet
Machinery:	2 General Motors diesels, radial. pancake type=25 kts. (*surface*); 1 Westinghouse propulsion motor. 1 Shaft. S.H.P.: 1,700=over 30 kts. (*submerged*) see *Conversion Notes*
Complement:	52 (4 officers and 48 men)

General Notes
High speed underwater target and experimental vessel. Built by Portsmouth Naval Shipyard. Laid down on 15 Mar. 1952, launched on 1 Aug. 1953, and completed on 5 Dec. 1953. Conventionally powered submarine of radical design with new hull form which makes her faster and more manoeuvrable than any other conventional submarine in the fleet. Officially described as a hydrodynamic test vehicle. Streamlined, whale-shaped without the naval flat-topped deck, conning tower modelled on a fish's dorsal fin.

Conversion Notes
Phase I (1953): cruciform stern.
Phase II (1956): open stern, plastic sonar bow.
Phase III (1959): improved sonar system (DIMUS), enlarged dorsal rudder, dive brakes on after sail section.
Phase IV (1961): Electric drive, contra-rotating motors and 2 propellers rotating about the same axis. A high capacity, long endurance silver zinc battery which will provide sufficient power to drive *Albacore* at 33 kts. submerged (official precis). Conversions were carried out at Portsmouth Naval Shipyard.



ALBACORE

1962, *United States Navy, Official*

Ex-Submarine Hunter Killers

3 "Barracuda" Class

1 Electric Boat Co.

SST
3 BARRACUDA (ex-*K1*)

2 *Mare Island Naval Shipyard*

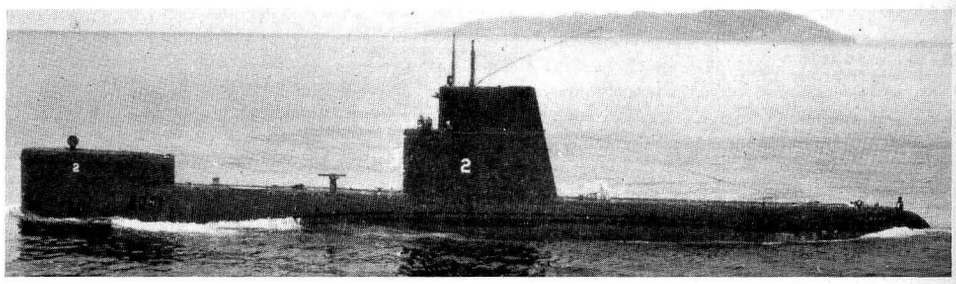
SS
551 BASS (ex-*K2*)
552 BONITA (ex-*K3*)

Displacement:	765 tons *standard*, 1,160 tons *submerged*
Dimensions:	196$\frac{1}{12}$ (*o.a.*) × 24$\frac{7}{12}$ × 14$\frac{5}{12}$ (*mean*) feet
Tubes:	4—21 inch
Machinery:	3 General Motors diesels. General Electric electric motors. 2 shafts. S.H.P.: 1,050=13 kts. *surface* and *submerged*
Complement:	47 (5 officers and 42 men)

General Notes
Medium size, "extremely quiet," and very handy design specifically built for A/S operations. Had letters and numbers instead of names until 15 Dec. 1955 when "B" names were substituted for "K" numbers. Have ungainly prow full of listening gear, newest electronic and sonar detection equipment, short hull, which makes them highly manoeuvrable and suitable for ambushing other submarines. Carry "target seeking" torpedoes.
In 1959 these submarines were considered unsuccessful as hunter killer craft. They lack speed, range and endurance. *Bass* and *Bonita* are out of commission, in reserve.

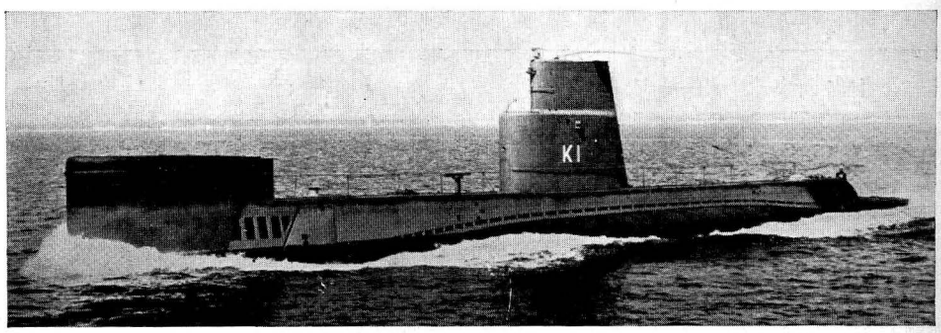
Reclassification Notes
In 1959 the Nos. were changed: *Barracuda* from SSK 1 to SST 3; and *Bass* and *Bonita* from SSK 2, SSK 3 to SS 551, SS 552, respectively.

Name	*Laid down*	*Launched*	*Completed*
Barracuda	1 July 1949	2 Mar. 1951	10 Nov. 1951
Bass	23 Feb. 1950	2 May 1951	11 Jan. 1952
Bonita	17 Mar. 1950	21 June 1951	11 Feb. 1952



BASS

1962, *United States Navy, Official*



BARRACUDA

U.S. Navy, Official

Experimental Notes
Bonita was used as a test ship in the 1958 Atomic Weapons Tests from which only superficial damage was sustained.

Photograph Notes
A photograph of *Bonita* appears in the 1954-55 to 1961-62 editions.

High Speed Attack Submarines (SS)
6 "Tang" Class

3 *Electric Boat Co., Groton*
SS
564 TRIGGER
566 TROUT
568 HARDER

3 *Portsmouth Naval Shipyard*
SS
563 TANG
565 WAHOO
567 GUDGEON

Displacement	1,615 tons *standard*, 1,800 tons *surface*, 2,400 tons *submerged*
Dimensions:	278 (*o.a.*) × 27½ × 17 feet
Tubes:	8—21 inch (6 forward, 2 aft)
Machinery:	3 Fairbanks-Morse diesels. B.H.P.: 4,200=15 to 20 kts. (*surface*). Electric motors. H.P.: 3,200=18 kts. (*submerged*)
Oil fuel:	350 tons
Complement:	78 (*Tang*, *Wahoo* 82, *Gudgeon*, *Trigger* 83)

General Notes

Embody various improvements based on war experience to give higher submerged speed, with a development of the Schnorkel breathing tubes. They are streamlined deep-diving vessels but have comparatively short hulls. *Trigger* was the first submarine of the post-war program to be laid down. *Tang* was the first of the new class to be completed (first large submarines to be constructed by the U.S. Navy since the Second World War). Reported to be most advanced in the world. Faster, more manoeuvrable and capable of more diversified employment than their predecessors of the wartime fleet type and the more recent Guppy-Schnorkel conversions. The hull is shorter than current fleet types, and this reduction in length is said to contribute to the underwater speed.

Gudgeon was the first United States submarine to circumnavigate the world during Sep. 1957-Feb. 1958.

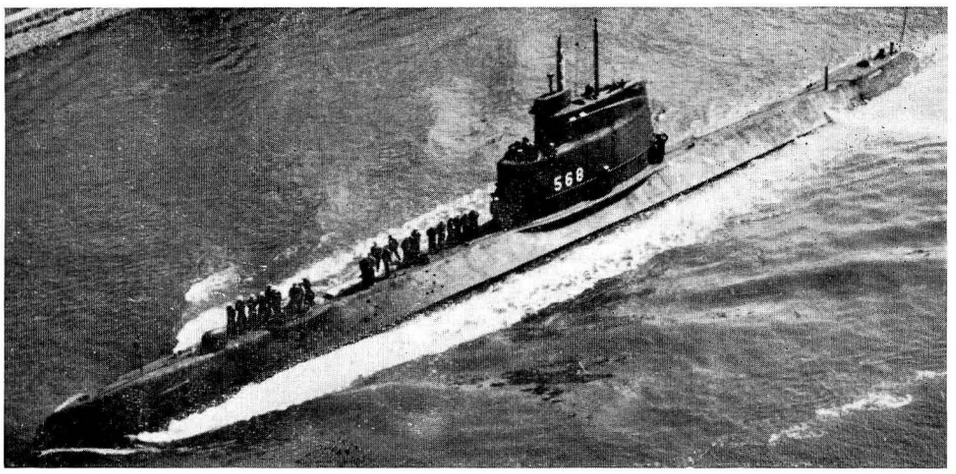
Engineering Notes

Tang, *Trigger*, *Trout* and *Wahoo* were originally powered by a compact radial type engine produced after five years of development work, comprising a 16-cylinder 2-cycle plant, mounted vertically with four rows of cylinders radially arranged. These new engines were only half the weight and approximately two-thirds the size of the engines previously available for use in submarines. They proved to be unsatisfactory and have been replaced by machinery similar to that in *Gudgeon* and *Harder* which have 3 Fairbanks-Morse high speed lightweight engines mounted horizontally.

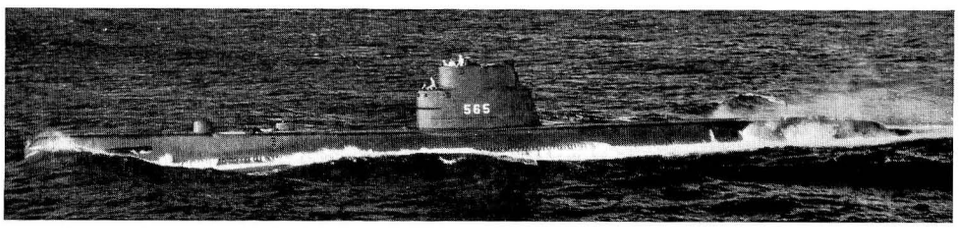
The electric motors are Elliott in *Tang* and *Trigger*, General Electric in *Wahoo* and *Trout*, Westinghouse in *Gudgeon* and *Harder*.

Photograph Notes

A photograph of *Trigger* appears in the 1955-56 to 1959-60 editions, and of *Trout* in the 1955-56 to 1960-61 editions.



HARDER — 1961, *Stefan Terzibaschitsch*



WAHOO — 1960, *United States Navy, Official*

Reconstruction Note

In 1957 *Tang*, *Trigger*, *Trout* and *Wahoo* were provided with an extra centre section, 9 feet long, to accommodate three new Fairbanks-Morse 1,400 B.H.P. "in-line" diesels to replace "pancake" type. The vessels were cut in halves, the sections inserted, and welded together again.

Name	*Laid down*	*Launched*	*Completed*
Gudgeon	20 May 1950	11 June 1952	21 Nov. 1952
Harder	30 June 1950	3 Dec. 1951	19 Aug. 1952
Tang	18 Apr. 1949	19 June 1951	25 Oct. 1952
Trigger	24 Feb. 1949	14 June 1951	31 Mar. 1952
Trout	1 Dec. 1949	21 Aug. 1951	27 June 1951
Wahoo	24 Oct. 1949	16 Oct. 1951	30 May 1952

Submarines (SS)
28 "Tench" Class

4 *Boston Naval Shipyard*
SS
G 522 AMBERJACK (15 Dec. 1944)
G 523 GRAMPUS (15 Dec. 1944)
G 525 GRENADIER (15 Dec. 1944)
FG 524 PICKEREL (15 Dec. 1944)

2 *Cramp S.B. Co.*
FG 425 TRUMPETFISH (19 Feb. 1944)
G 426 TUSK (8 July 1945)

1 *Electric Boat Co.*
435 CORSAIR (19 Apr. 1946) **AG**

21 *Portsmouth Naval Shipyard*
475 ARGONAUT (1 Oct. 1944)
477 CONGER (17 Oct.) **AG**
G 478 CUTLASS (5 Nov. 1944)
479 DIABLO (30 Nov. 1944)
482 IREX (26 Jan. 1945)
480 MEDREGAL (15 Dec. 1944)
G 484 ODAX (10 Apr. 1945)
G 486 POMODON (6 Dec. 1945)
G 424 QUILLBACK (ex-*Trembler*, 1 Oct. 1944)
FG 487 REMORA (7 Dec. 1945)
476 RUNNER (17 Oct. 1944)
488 SARDA (24 Aug. 1945)
G 483 SEA LEOPARD (2 Mar. 1945)
G 485 SIRAGO (11 May 1945)
G 417 TENCH (7 July 1944)
G 418 THORNBACK (7 July 1944)
G 420 TIRANTE (9 Aug. 1944)
422 TORO (19 Aug. 1944)
423 TORSK (6 Sep. 1944)
G 421 TRUTTA (18 Aug. 1944)
FG 490 VOLADOR (17 Jan. 1946)

Displacement:	1,570 tons *standard*, 1,800 tons *surface* (2,500 tons *submerged*)
Dimensions:	311¾ (*o.a.*), Guppies 306 (length varies) × 27½ × 17 (*surface*) feet
Guns:	1—5 inch, 25 cal., 2—40 mm. AA. (Guppies none)
Tubes:	10—21 inch
Machinery:	B.H.P.: 6,500=20 kts. (*surface*). S.H.P.: 4,610=10 kts. (*submerged*). Guppies 15 kts.
Oil fuel:	300 tons
Radius:	14,000 miles at 10 kts.
Complement:	78 to 85

General Notes

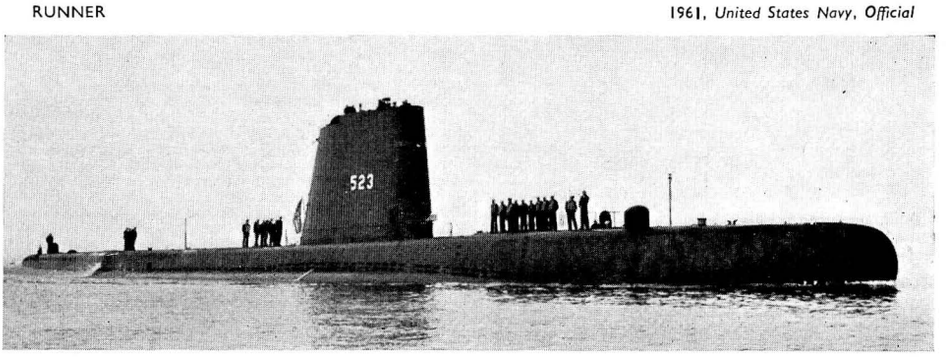
Enlarged and improved version of *Balao* design, able to dive to 100 fathoms. Nearly all fitted with a development of the German Schnorkel breathing apparatus. *Pickerel*, commissioned 4 Apr. 1949, made a 5,200 miles run from Hong Kong to Pearl Harbour in 21 days without surfacing in 1950. In 1952 she surfaced in tests at a 48 degree angle from a depth of 150 feet, one of the steepest ever attempted. Both tests made to evaluate the capabilities and design characteristics of "Guppy" type submarines. *Requin*, *Spinax* and *Tigrone* converted to Radar Picket Submarines (see later page). *Grenadier* commissioned 10 Feb. 1951. *Conger* made her 11,000th dive on 18 Apr. 1962. *Sarda* and *Toro* have also made more than 11,000 dives.

93 more of this class were cancelled during 1944-45.

The construction of *Unicorn*, SS 436, and *Walrus*, SS 437, was suspended after the Second World War. They were stricken from the Navy List on 9 June 1958 and scrapped.



RUNNER — 1961, *United States Navy, Official*



GRAMPUS — 1958, *Wright & Logan*

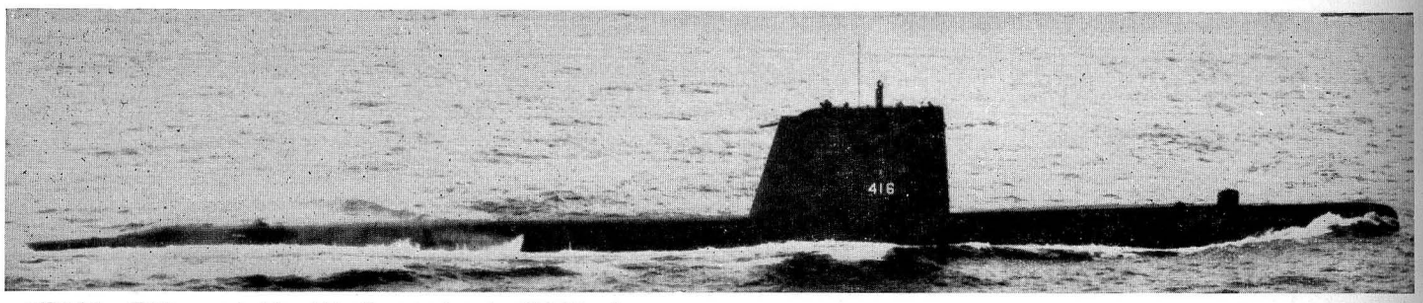
Experimental Notes

Partly completed *Turbot* (SS 427) is being used for sound, vibration and internal combustion tests by Navy Engineering Experimental Station, Annapolis and partly constructed *Ulua* (SS 428) was used for tests in connection with the new atomic powered submarines. A new 52 foot engine room was installed in *Ulua* in 1957 for testing purposes. She was used in underwater explosion research, and sold for scrap in 1958.

FG FRAM II/GUPPY III conversions, which include a new 15-ft., 40-ton section with 5-ft. longer "sail."

G Units marked G are of the new "Guppy (Greater Underwater Propulsive Power) design equipped with the latest devices. *Argonaut*, *Irex*, *Medregal*, *Runner*, *Torsk* carry snorkels but are not Guppy conversions.

AG *Corsair* was reclassified as AGSS on 1 Apr. 1960 and *Conger* in 1962.



TIRU (after FRAM conversion) broadside silhouette view (see FRAM *Notes*) 1961, *United States Navy, Official*

Submarines (SS)
78 " Balao " Class

8 *Cramp S.B. Co.*

SS
292 DEVILFISH (30 May 1943)
295 HACKLEBACK (30 May 1943)
T 297 LING (18 Aug. 1943)
T 298 LIONFISH (7 Nov. 1943)
300 MORAY (14 May 1944)
T 301 RONCADOR (14 May 1944)
302 SABALO (4 June 1944)
303 SABLEFISH (4 June 1944)

28 *Electric Boat Co.*

311 ARCHERFISH (29 May 1943) **AG**
309 ASPRO (ex-*Acedia*, 7 Apr. 1943) **AG**
T 310 BATFISH (ex-*Acoupa*, 3 May 1943)
319 BECUNA (30 Jan. 1944)
G 321 BESUGO (27 Feb. 1944)
G 322 BLACKFIN (12 Mar. 1944)
G 324 BLENNY (9 Apr. 1944)
331 BUGARA (2 July 1944)
G 334 CABEZON (27 Aug. 1944) **T**
G 323 CAIMAN (ex-*Blanquilo*, 30 Mar. 1944)
336 CAPITAINE (1 Oct. 1944) **AG**
337 CARBONERO (15 Oct. 1944)
338 CARP (12 Nov. 1944)
G 339 CATFISH (19 Nov. 1944)
328 CHARR (ex-*Bocaccio*, 28 May 1944)
G 341 CHIVO (14 Jan. 1945)
G 342 CHOPPER (14 Feb. 1945)
FG 343 CLAMAGORE (23 Feb. 1945)
FG 344 COBBLER (1 Apr. 1945)
FG 346 CORPORAL (10 June 1945)
G 347 CUBERA (17 June 1945)
348 CUSK (28 July 1945) **AG**
T 335 DENTUDA (10 Sep. 1944)
G 349 DIODON (10 Sep. 1945)
G 350 DOGFISH (27 Oct. 1945)
G 340 ENTEMEDOR (ex-*Chiswick*, 17 Dec. 1944)
FG 351 GREENFISH (ex-*Doncella*, 21 Dec. 1945)
G 352 HALFBEAK (ex-*Dory*, 19 Feb. 1946)

4 *Manitowoc S.B. Co.*

G 365 HARDHEAD (12 Dec. 1943)
G 368 JALLAO (12 Mar. 1944)
T 374 LOGGERHEAD (13 Aug. 1944)
G 377 MENHADEN (20 Dec. 1944)

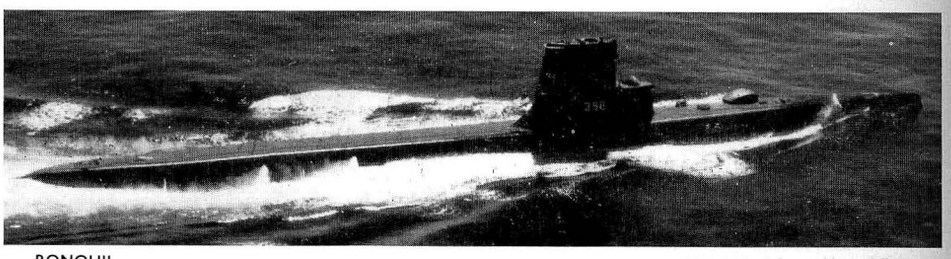
4 *Mare Island Navy Yard*

304 SEAHORSE (9 Jan. 1943)
411 SPADEFISH (8 Jan. 1943)
FG 416 TIRU (16 Sep. 1947)
T 412 TREPANG (23 Mar. 1944)

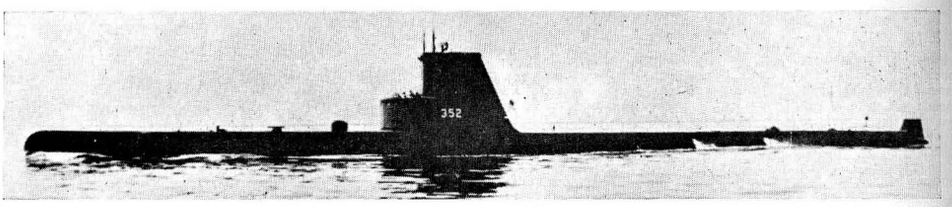
34 *Portsmouth Navy Yard*

403 ATULE (6 Mar. 1944)
285 BALAO (Nov. 1942) **AG**
G 385 BANG (30 Aug. 1943)
T 286 BILLFISH (13 Nov. 1942)
T 287 BOWFIN (7 Dec. 1943)
T 288 CABRILLA (24 Dec. 1942)
T 291 CREVALLE (22 Feb. 1943) **AG**
383 PAMPANITO (12 July 1943)
T 384 PARCHE (24 July 1943)
382 PICUDA (ex-*Obisto*, 12 July 1943)
387 PINTADO (15 Sep. 1943)
388 PIPEFISH (12 Oct. 1943)
409 PIPER (ex-*Awa*, 26 June, 1944)
389 PIRANHA (27 Oct. 1943)
390 PLAICE (15 Nov. 1943)
G 391 POMFRET (27 Oct. 1943)
393 QUEENFISH (30 Nov. 1943) **AG**
394 RAZORBACK (27 Jan. 1944)
395 REDFISH (27 Jan. 1944) **AG**
G 396 RONQUIL (27 Jan. 1944)
381 SAND LANCE (ex-*Orca*, ex-*Orjanco*, 25 June 1943)
397 SCABBARDFISH (27 Jan. 1944)
399 SEA CAT (21 Feb. 1944)
400 SEA DEVIL (28 Feb. 1944) **AG**
T 401 SEA DOG (28 Mar. 1944)
G 402 SEA FOX (28 Mar. 1944)
405 SEA OWL (7 May 1944) SSK
G 406 SEA POACHER (20 May 1944)
407 SEA ROBIN (25 May 1944)
398 SEGUNDO (5 Feb. 1944)
408 SENNET (6 June 1944)
404 SPIKEFISH (ex-*Shiner*, 26 Apr. 1944)
392 STERLET (27 Oct. 1943)
G 410 THREADFIN (ex-*Sole*, 26 June 1944)

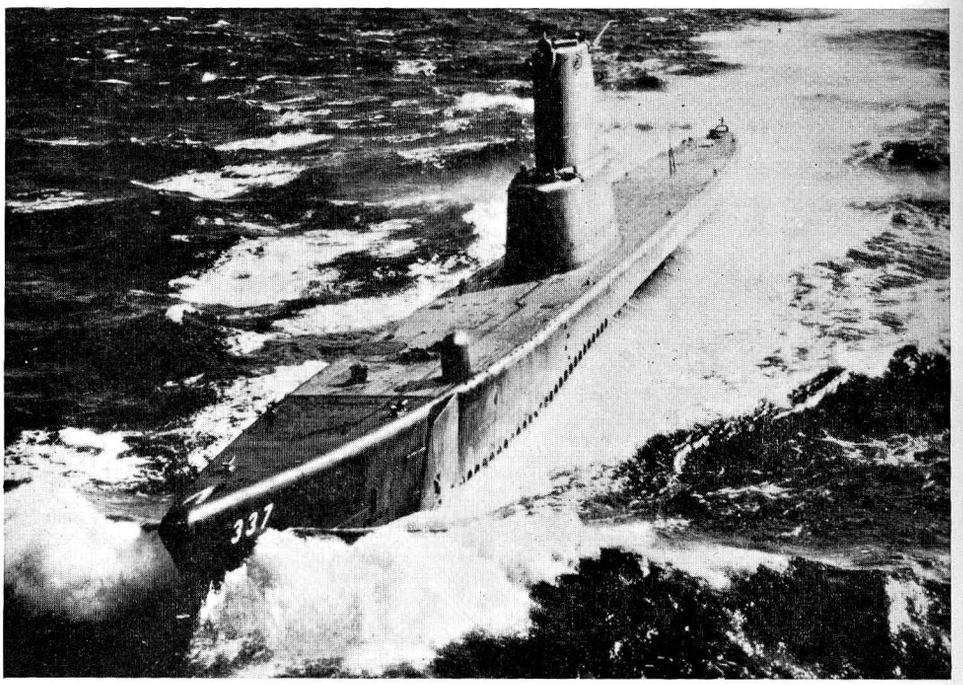
Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½×27×17 feet (Guppy conversions 309 (*o.a.*) feet, FG conversions 326½ (*o.a.*) feet, but length varies) see FG *Notes*
Guns:	Mostly 1 or 2—5 inch, 25 cal., 2—40 mm. AA. Armament varies (Guppies, no guns)
Tubes:	10—21 inch (6 bow, 4 stern), 24 torpedoes
Machinery:	G.M. or Fairbanks-Morse 2-stroke diesels. B.H.P.: 6,500=20 kts. (*surface*). S.H.P.: 4,610=10 kts. (*submerged*). *Dogfish*, submerged speed, 17·25 kts.
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	85 (78 to 82 in peace)



RONQUIL 1962, *United States Navy, Official*



HALFBEAK *Added* 1961, *Giorgio Arra*



CARBONERO (after conversion from SSG to SS) 1960, *courtesy Mr. W. H. Davis*

General Notes

In order to facilitate rapid building, all were of the same general type as *Gato* class, and of all-welded construction. Average time of construction during war was reduced to about nine months. High standard of accommodation, including separate messing and sleeping compartments. War losses: *Barbel*, *Bullhead*, *Capelin*, *Cisco*, *Escolar*, *Golet*, *Kete*, *Lagarto*, *Shark*, *Tang*. 16 cancelled: *Dugong*, *Eel*, *Espada*, *Garloppa*, *Gauppa*, *Goldring*, *Jawfish*, *Needlefish* (379), *Nerka*, *Ono*, *Turbot*, *Ulua*, *Vandance* (431), *Whitefish*, *Whiting*, *Wolffish*. In addition *Apogan*, *Pilotfish* and *Skate* were scrapped after being employed as atom bomb targets at Bikini 1946. *Sealion* and *Perch* fitted to carry troops; and *Burrfish* modified for radar picket duties with reduced armament; *Guavina* converted to oiler. *Tiru* altered during construction for higher submerged speed. *Baya* equipped for electronic experiments (see later pages). *Cochino* sank off the northern coast of Norway, 26 Aug. 1949, *Spikefish* has made a record of 10,000 dives (Mar. 1960). The construction of *Lancetfish* was suspended at the end of the Second World War; she was stricken from the Navy List on 9 June 1958 and scrapped.

G 29 units converted into " Guppies." **T** 13 training units with torpedo tubes welded shut and propellors removed. *Crevale* was designated reserve training submarine in 1962. **AG** units reclassified AG(SS) *Carbonero* and *Cusk* converted to SSG, were subsequently reclassified as SS *Cusk* was reclassified as AGSS on 1 Sep. 1962. *Barbero* was equipped to carry cargo and reclassified ASSA, but was subsequently converted to a guided missile submarine, SSG, (see later page). *Bergall*, *Bugara*, *Carbonero*, *Carp*, *Charr*, *Cusk*, *Piper*, *Sabalo*, *Sea Cat*, *Sea Owl*, *Segunda*, *Sennet*, *Sterlet*, carry snorkels but are not true " Guppies." *Sea Poacher* has a bow similar to that of SSK but is not fitted as SSK. *Archerfish* is fitted for hydrographic work and is demilitarised.

FG FRAM II/GUPPY III Conversions.

During her FRAM overhaul *Tiru* had an additional 12-ft. section added and the conning tower was extended by 5 ft. to provide for an attack centre. Fitted with non-corrodible laminated glass plastic " sail " (conning tower) and superstructure. The overhaul included increased fuel capacity, extra berthing accommodation, advanced electric systems, greater communication capabilities, and the ability to fire new advanced weapons. *Tiru* was the first submarine to undergo FRAM (at Pearl Harbour Naval Shipyard).

Transfer Notes

Blower (325), *Blueback* (326), *Boarfish* (327), *Chub* (329), *Brill* (330), *Bumper* (333) were transferred to Turkish Navy, and *Hawksbill* and *Icefish* (Guppies) were transferred to Royal Netherlands Navy in 1953 (on loan for five years). *Bergall*, SS 320, was transferred to Turkey in Sep. 1958, and *Mapiro*, SS 376, and *Mero*, SS 378 were transferred to Turkey in 1960. *Lizardfish*, SS 373, was loaned to Italy in Jan. 1960, *Kraken*, SS 370, was loaned to Spain in Oct. 1959. *Tilefish*, SS 307, was sold to Venezuela in 1960. *Lamprey*, SS 372, was transferred to Argentina at San Francisco on 21 July 1960, and *Macabi*, SS 375, was also transferred to Argentina. *Springer*, SS 414, was transferred to Chile on 23 Jan. 1961. *Burrfish*, SSR 312, reclassified as SS in Mar. 1961, was transferred to Canada on 11 May 1961, on loan for five years. *Spot*, SS 413, transferred to Chile on 12 Jan. 1962 on loan for five years.

Loss

Stickleback sank off Pearl Harbour, after being rammed by the destroyer escort *Silverstein* during manoeuvres, on 29 May 1958.

Recent Disposal

Dragonet, SS 293, was stricken in 1961 and expended as a target.

Ex-Submarine Hunter Killers
7 Converted " Gato " Class
5 SS and 2 AGSS (all ex-SSK)

7 Electric Boat Co.

SS	SS	SS
240 ANGLER	242 BLUEGILL	244 CAVALLA
	243 BREAM	246 CROAKER
AGSS 241 BASHAW		AGSS 214 GROUPER*

Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311¼ × 27 × 15 feet
Machinery:	Diesels. B.H.P.: 6,500=21 kts. (*surface*). Electric motors, H.P.: 2,750=15 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	10,000 miles at 10 kts.
Complement:	80

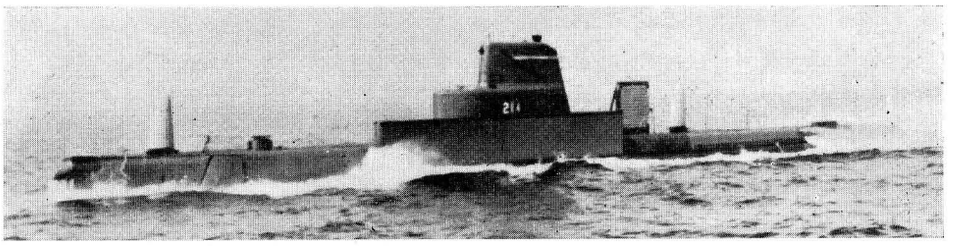
General Notes

Originally completed as units of the " Gato " class, see photos below. *Grouper* was converted and redesignated SSK (Large) in 1950, remainder in 1951-53. Contract for conversion of *Angler* and *Cavalla* was awarded to Electric Boat Co., Groton, Connecticut in Mar. 1952. *Bashaw* commissioned in Apr. 1953.

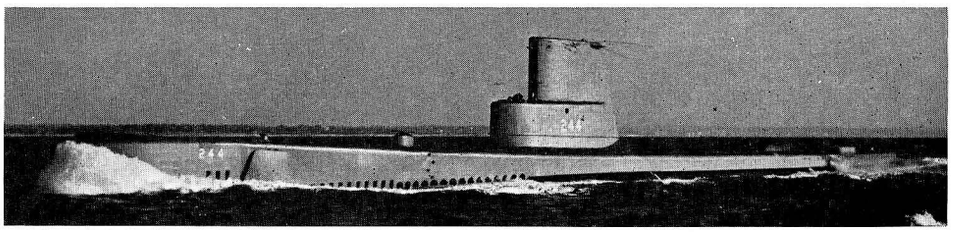
Reclassification Notes

Grouper was again reclassified from SSK 214 to AG(SS) 214 on 21 June 1958. She is to carry out experiments for the Underwater Sound Laboratory. *Angler*, *Bashaw*, *Bluegill*, *Bream*, *Cavalla*, and *Croaker* were reclassified from SSK to SS on 15 Aug. 1959. *Bashaw* was reclassified as AGSS on 1 Sep. 1962.

Name	*Laid down*	*Launched*	*Completed*
Angler	9 Nov. 1942	4 July 1943	1 Oct. 1943
Bashaw	4 Dec. 1942	25 July 1943	25 Oct. 1943
Bluegill	17 Dec. 1942	8 Aug. 1943	11 Nov. 1943
Bream	5 Feb. 1943	17 Oct. 1943	24 Jan. 1944
Cavalla	4 Mar. 1943	14 Nov. 1943	29 Feb. 1944
Croaker	1 Apr. 1943	19 Dec. 1943	21 Apr. 1944
Grouper	28 Dec. 1940	27 Oct. 1941	12 Feb. 1942



GROUPER — 1962, *courtesy Mr. W. H. Davis*



CAVALLA — *Added* 1961, *United States Navy, Official*

Photograph Notes

Port broadside view of *Croaker* in the 1956-57 to 1961-62 editions.

Experimental Notes

* *Grouper* underwent a seven month overhaul in 1960 which radically altered her appearance. Several new research sonar devices installed for determining underwater sound characteristics in various parts of the world's oceans. Bow fitted with a special large transducer; forward torpedo room converted into a laboratory with test equipment; facilities include berthing for scientists, sonar room. Hydrophones provide for a total of 261 transducers for research purposes.

AGSS 555 DOLPHIN

Dimensions:	Length: 200 feet
Tubes:	Single 21 inch bow

Notes

This auxiliary experimental deep-diving submarine, AGSS, with single screw, diesel-electric, battery systems, and single torpedo tube for special non-nuclear experimental purposes, was authorised under the 1961 program. Constant diameter pressure hull (18 ft. diameter). Superstructure, rudder, fairwater, etc. to be constructed of glass reinforced plastic. Construction was awarded to Portsmouth Naval Shipyard. To cost $20,800,000.

Submarines (SS)
(Naval Reserve Training)
6 " Gato " Class

4 Electric Boat Co.
CERO
COBIA
COD
HAKE

1 Mare Island Navy Yard
SILVERSIDES

1 Portsmouth Navy Yard
DRUM

Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311¾ × 27 × 15 feet
Guns:	Removed
Tubes:	See notes
Machinery:	G.M. 2-stroke diesels. B.H.P.: 6,500 =21 kts. (*surface*). Electric motors. H.P.: 2,750=10 kts. (*submerged*). Have 2 engine rooms instead of 1 as in previous class, to reduce size of compartments
Oil fuel:	300 tons
Radius:	10,000 miles at 10 kts.
Complement:	85

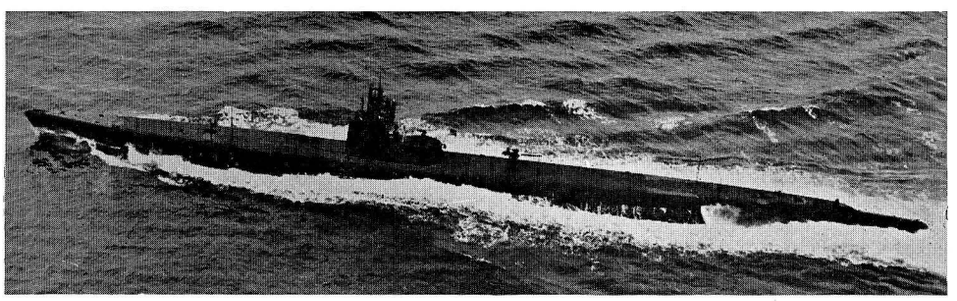
General Notes

Ordered under the 1939-41 Programs. War losses: *Albacore*, *Amberjack*, *Bonefish*, *Corvina*, *Darter*, *Dorado*, *Flier*, *Growler*, *Grunion*, *Harder*, *Herring*, *Robalo*, *Runner*, *Scamp*, *Scorpion*, *Snook*, *Trigger*, *Tullibee*, *Wahoo*. All the remaining boats of this class have been assigned to training duties with Naval Reserve units, their torpedo tubes (10—21 inch, 6 bow and 4 stern) having been welded shut and their propellors removed.

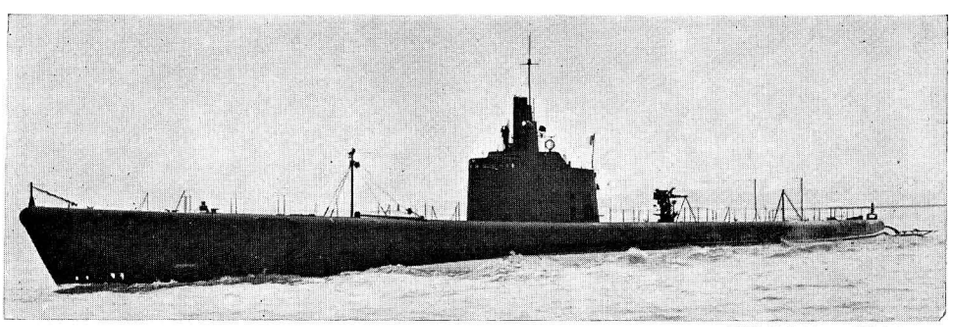
Conversion Notes

Grouper was converted to a large submarine hunter-killer (SSK) in 1950 and *Angler*, *Bashaw*, *Bluegill*, *Bream*, *Cavalla* and *Croaker* were similarly converted to anti-submarine submarines (SSK) in 1951-53. *Pompom*, *Rasher*, *Raton*, *Ray*, *Redfin* and *Rock* were converted to Radar Picket Submarines (SSR); and *Flying Fish* (scrapped in 1959) was converted to an experimental submarine (AGSS). *Tunny* was converted to a Guided Missile Submarine (SSG) in 1953.

No.	*Name*	*Laid down*	*Launched*	*Completed*
224	*Cod*	21 July 1942	21 Mar. 1943	21 June 1943
225	*Cero*	24 Aug. 1942	4 Apr. 1943	3 July 1943
228	*Drum*	11 Sep. 1940	12 May 1941	23 Dec. 1941
236	*Silversides*	4 Nov. 1940	26 Aug. 1941	15 Dec. 1942
245	*Cobia*	17 Mar. 1943	28 Nov. 1943	28 Mar. 1944
256	*Hake*	1 Nov. 1941	17 July 1942	30 Oct. 1942



HAKE — *U.S. Navy, Official*



SILVERSIDES — 1955, *U.S. Navy, Official*

Transfer Notes

In 1954 *Barb*, SS 220, and *Dace*, SS 247, were transferred to Italy, and *Gulttaro*, SS 363, and *Hammerhead*, SS 364, were transferred to Turkey (loans extended for five years in 1959) In late August 1955 *Mingo*, SS 261, was transferred to Japan on loan for five years. *Muskallunge*, SS 262, and *Paddle*, SS 263, were loaned to Brazil in Jan. 1957. *Jack*, SS 259, and *Lapon*, SS 260, were loaned to Greece in 1957 (*Jack* transferred on 21 Apr. 1958, *Lapon* transferred on 8 Aug. 1957).

Recent Disposals

Blackfish, SS 221, *Finback*, SS 230, *Gunnel*, SS 253, *Haddo*, SS 255, *Pogy*, SS 266, and *Tinosa*, SS 283, were stricken from the Navy List in early 1959. *Blufish*, SS 222, *Flasher*, SS 249, *Flounder*, SS 251, and *Gabilan*, SS 252, were stricken in late 1959, *Gato*, SS 212, *Greenling*, SS 213, *Guardfish*, SS 217, *Haddock*, SS 231, *Kingfish*, SS 234, *Shad*, SS 235, *Whale*, SS 239, *Gurnard*, SS 254, *Hoe*, SS 258, *Pargo*, SS 264, *Puffer*, SS 268, *Sawfish*, SS 276, *Steelhead*, SS 280, and *Sunfish*, SS 281, were stricken in 1960, *Peta*, SS 265, was sold in Nov. 1960.

The hulk of *Tinosa* is employed for training in submarine salvage operations in the Hawaiian Islands.

Gurnard was disposed of in 1961 and *Guardfish* was expended as a target in 1961.

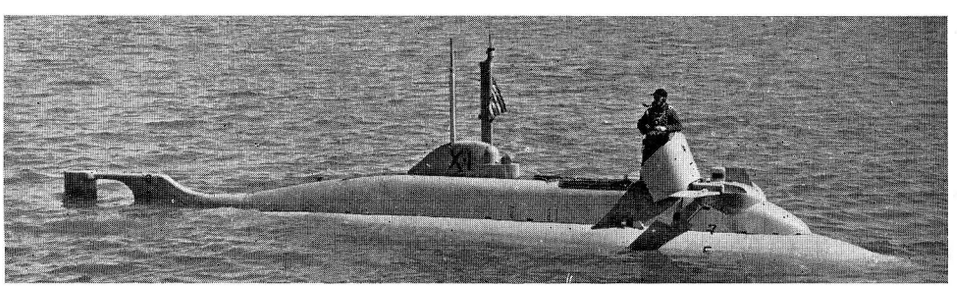
1 Midget Type (SSX)

SS X 1

Displacement:	31 tons *standard*, 36 tons *full load*
Dimensions:	49¼ × 7 × 7 feet
Machinery:	Diesel. B.H.P.: 30=8 to 15 (*max.*) kts. *surface* Electric motors=12 kts. *submerged*
Radius:	Over 500 miles
Complement:	8 (2 officers, 6 men) maximum; 4 minimum underway crew

Notes

The midget submarine XI, built in 1954-55, see full details in the 1958-59 and earlier editions, was decommissioned in Feb. 1958 after internal explosion which severed hull into three pieces; but in Sep. 1960 the Navy reported it is bringing its only midget submarine back into service to work on a Naval Research Laboratory project. This submersible craft rejoined the fleet on 14 Dec. 1960 after being rebuilt by Philadelphia Naval Shipyard. To be employed on special test and development work.



XI — 1962, *United States Navy, Official*

Ex-Radar Picket Submarines

3 Converted "Tench" Class

3 Portsmouth Naval Shipyard

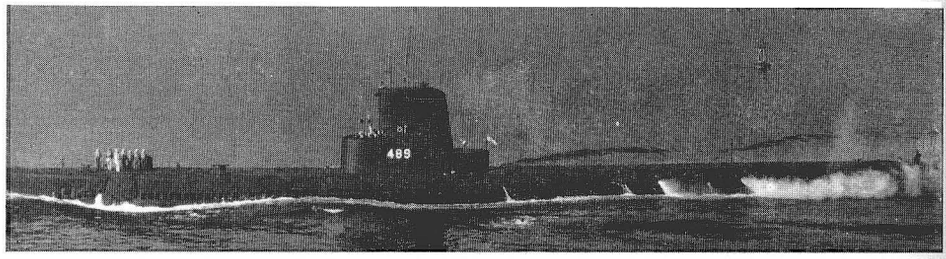
SS
481 REQUIN (1 Jan. 1945)
489 SPINAX (20 Nov. 1945)

SS
419 TIGRONE (20 July 1944)

Displacement:	1,570 tons *standard*, 18,000 tons *surface* (2,500 tons *submerged*)
Dimensions:	312 (*o.a.*) × 27 × 17 feet
Guns:	1—40 mm. AA.
Tubes:	6—21 inch forward, stern tubes removed
Machinery:	Diesels. B.H.P.: 6,500=20 kts. (*surface*). Electric motors. H.P.: 2,750=10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	14,000 miles at 10 kts.
Complement:	80

Notes

Before conversion into Radar Picket Submarines, SSR, these vessels were conventional fleet submarines of the "Tench" class, see earlier page. *Spinax* was laid down on 14 May 1945. *Tigrone* was completed on 21 Feb. 1949. All have reduced armament (1—40 mm.). Units vary in detail Stern torpedo tubes removed. In 1959 the *Requin* and *Spinax* had their big radar antennae and complicated conning tower and air-control centre removed and they were fitted with a streamlined conning tower. All three were reclassified from SSR to SS on 15 Aug. 1959.



SPINAX (after refit with streamlined conning tower) 1962, *United States Navy, Official*

Photograph Notes

Port broadside view of *Tigrone* in the 1952-53 to 1957-58 editions. Starboard bow view of *Requin* in the 1953-54 to 1961-62 editions.

Transfer Notes

The former radar picket submarine *Burrfish*, SSR 312, reclassified as SS in Mar. 1961, was transferred to the Royal Canadian Navy on 11 May 1961, on loan for five years, and renamed *Grilse*.

4 Converted "Gato" Class

4 Manitowoc S.B. Co.

AGSS
269 RASHER
270 RATON
274 ROCK

SS
272 REDFIN

Displacement:	1,750 tons *standard*, 1,800 tons *surface* (2,500 tons *submerged*)
Dimensions:	343 × 27 × 17 feet
Machinery:	G.M. 2-stroke diesels. B.H.P.: 6,500 =21 kts. (*surface*). Electric motors. H.P.: 2,750=10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	85

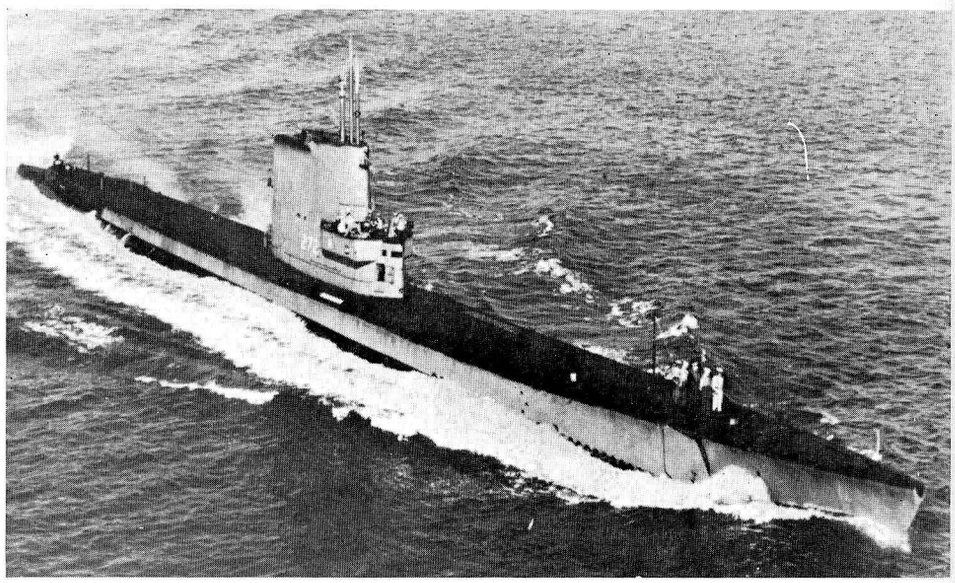
General Notes

Before conversion into Radar Picket Submarines, SSR, these vessels were conventional fleet submarines of the "Gato" class, see earlier page. They were cut in two to permit the installation of new electronic equipment. Two new midsections lengthened them by 31 feet from their original 311¼ feet and increased their displacement from their original 1,525 tons. *Redfin* re-commissioned 9 Jan. 1953. *Rock* re-commissioned 12 Oct. 1953. Photograph of *Ray* in the 1957-58 edition. *Redfin* was reclassified from SSR to SS in 1959, and *Rasher*, *Raton*, and *Rock* were reclassified as AGSS in 1960.

Name	*Laid down*	*Launched*	*Completed*
Rasher	4 May 1942	20 Dec. 1942	8 June 1943
Raton	29 May 1942	24 Jan. 1943	13 July 1943
Redfin	3 Sep. 1942	4 Apr. 1943	31 Aug. 1943
Rock	23 Dec. 1942	20 June 1943	26 Oct. 1943

Recent Disposals

Pompon, SSR 267, and *Ray*, SSR 271, were stricken from the Navy List at the end of 1960.



REDFIN 1961, *United States Navy, Official*

Experimental Submarines (AGSS)

2 Converted "Balao" Class

AGSS 318 BAYA **AGSS 299 MANTA**

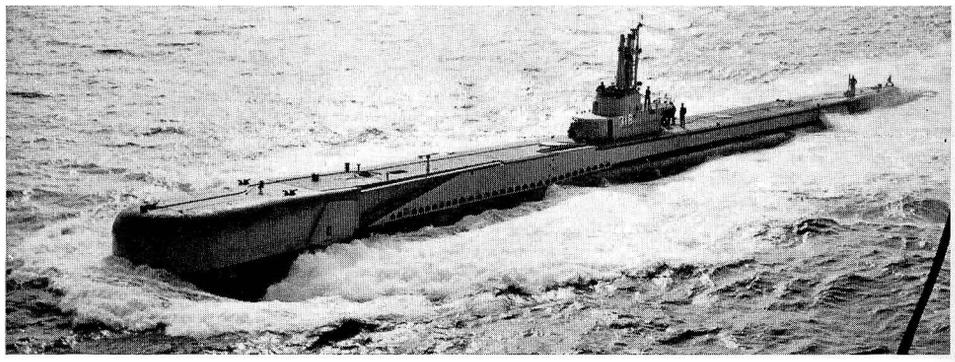
Name:	*Baya*	*Manta*
Builders:	Electric Boat Div., Groton	Cramp Shipbuilding Co.
Laid down:	8 Apr. 1943	15 Nov. 1942
Launched:	2 Jan. 1944	7 Nov. 1943
Completed:	20 May 1945	20 Jan. 1945
Displacement:	1,526 tons *standard*, 1,900 tons *surface* (2,625 ton ssubmerged)	
Dimensions:	311½ (*o.a.*), *Baya* 334¾ (*o.a.*) × 27 × 17 feet (see *Reconstruction Notes*)	
Machinery:	Diesels. B.H.P.: 6,500=20 kts. *surface*; H.P.: 2,750=15 kts. *submerged*	
Oil fuel:	300 tons	
Radius:	12,000 miles at 10 kts.	
Complement:	78	

General Notes

Were of "Balao" class before conversion. Employed experimentally. *Baya* was converted to a laboratory submarine for electronic experiments and *Manta* to a target submarine, the torpedo tubes and appendages being rendered inoperative. No guns. *Manta* is assigned to Naval Reserve training.

Reconstruction Notes

In 1958-59 *Baya* was cut in two at the San Francisco Naval Shipyard and a 23-ft. section inserted amidships between the forward torpedo room and the forward battery room. She was also fitted with a bigger and blunter bow to house new electronic gear, two booms which act as sonar attennae when extended, a mushroom anchor installed in the bottom of the submarine in a recess built into the hull, and living quarters for 12 reasearch laboratory scientists. She is fitted with a LORAD anti-submarine detection system (long range). In 1960 she was assigned to the operational test and evaluation force.



BAYA (round prow pushes water away at high speeds) 1960, *courtesy "Our Navy"*

Target and Training Submarines (SST)

2 "T" Class

Electric Boat Co., Groton, Conn — *1 Portsmouth Naval Shipyard*

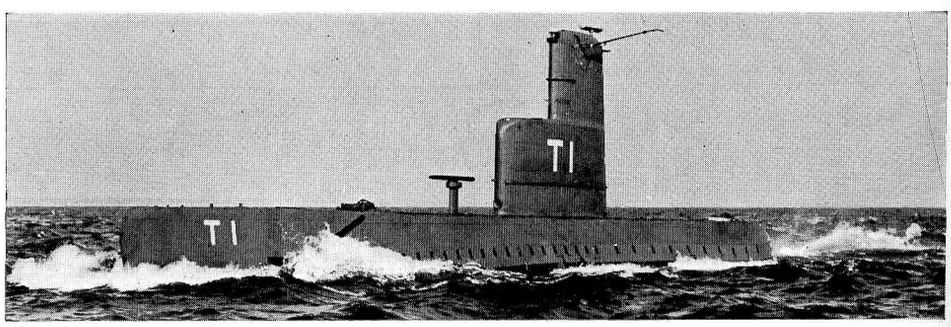
SST
1 MACKEREL (ex-*T1*, ex-*AGSS 570*)

SST
2 MARLIN (ex-*T2*)

Displacement:	250 tons *standard*, 303 tons *surface* (347 tons *submerged*)
Dimensions:	131½ (*o.a.*) × 13 7/12 × 12 5/6 (*mean*) feet
Torpedo Tubes:	1 forward
Machinery:	General Motors diesels. 1 shaft. Elliott electric motors. S.H.P.: 1,050 =10 kts. *surface* and *submerged*
Oil fuel:	18 tons
Radius:	2,000 miles at 10 kts.
Complement:	14

General Notes

Marlin was ordered on 17 Mar. 1951. Smallest submarine built for 47 years. Stated to be useful in landing raiding parties. Same general appearance as "Guppy" type submarines. *Mackerel* was ordered on 5 Jan. 1952. Classification SST and former name TI superseded AGSS 570, the classification and number originally assigned to *Mackerel*. For training surface and air anti-submarine forces. Renamed in 1956. Cost $3,000,000 each.



MACKEREL 1955, *U.S. Navy, Official*

Name	*Laid down*	*Launched*	*Completed*
Mackerel	12 May 1952	14 Oct. 1953	28 Nov. 1953
Marlin	1 Apr. 1952	17 July 1953	9 Oct. 1953

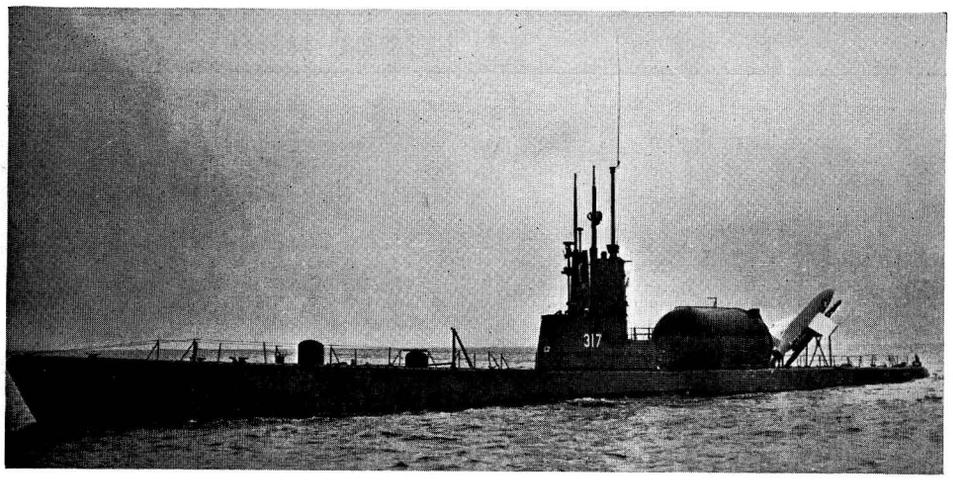
Guided-missile Submarines (SSG)

1 Converted "Balao" Class

SSG
317 BARBERO (ex-*ASSA*, ex-*SS*)

Builders:	Electric Boat Div., Groton
Laid down:	11 Mar. 1943
Launched:	12 Dec. 1943
Completed:	29 Apr. 1944
Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½ × 27 × 17 feet
Machinery:	Diesels: B.H.P.: 6,500=20 kts. (*surface*). H.P.: 2,750=15 kts. (*submerged*)
Oil Fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	78

Notes
Barbero was originally a conventional submarine of the "Balao" class, see earlier page, but she was subsenquently converted to an Amphibious Vessel. Submarine Cargo (ASSA) and under the 1955 fiscal program she was converted to a guided missile submarine (SSG) at Mare Island Naval Shipyard and recommissioned 27 Oct. 1955. She now has a fully streamlined conning tower of the "Guppy" type. She has been modified at Philadelphia Naval Shipyard to handle the (now cancelled) "Regulus II" guided missile. In Pacific. She fired her 1,000th "Regulus I" missile during 1960.



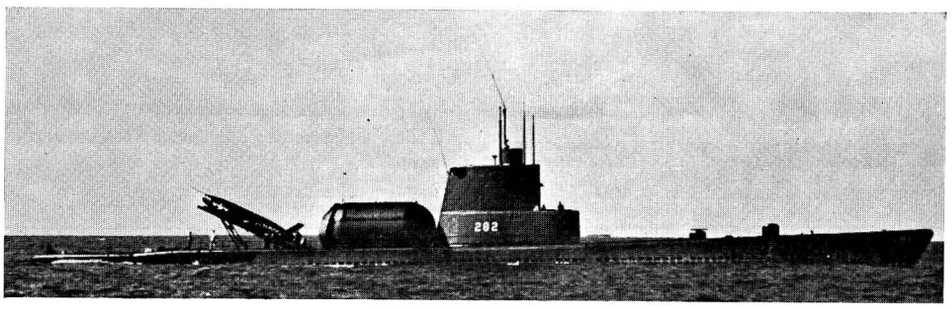
BARBERO (with Regulus I in launching position) 1959, *United States Navy Official*

1 Converted "Gato" Class

SSG
282 TUNNY

Builders:	Mare Island Naval Shipyard
Laid down:	10 Nov. 1941
Launched:	1 July 1942
Completed:	1 Sep. 1942
Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311¾ × 27 × 17 feet
Machinery:	Diesels. B.H.P.: 6,500=21 kts. (*surface*), Electric motors, H.P.: 2,750=10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	85

General Notes
Before conversion was of "Gato" class, see preceding page. Converted by Mare Island Naval Shipyard, Vallejo, California. She was modified at Pearl Harbour Naval Shipyard to handle the now cancelled "Regulus II" guided missile. In the Pacific.



TUNNY (with Regulus I surface-to-surface guided missile aboard) *Added* 1959, *United States Navy, Official*

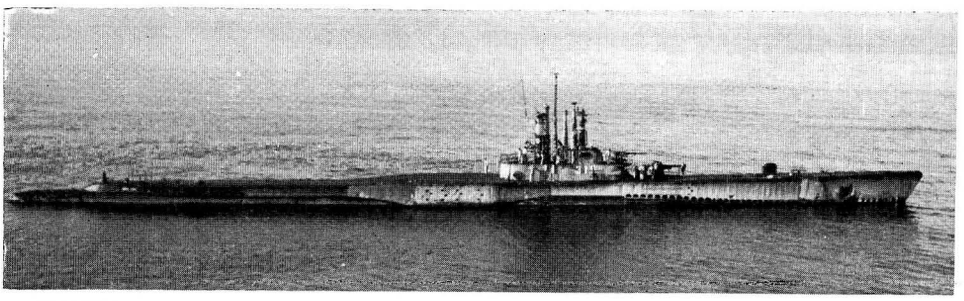
Guided Missile Notes
Equipped with "Regulus I" guided missiles, 32½ feet long. Both *Barbero* and *Tunny* are fitted with missile guidance equipment. Submarines fitted with missile guidance equipment but not fitted for launching guided missiles are *Cusk*, *Carbonero*, *Torsk*, *Argonaut* and *Runner*.

Photograph Notes
Sequence photographs of "Regulus I" guided missile rolled from the hangar of *Tunny*, being boosted, and soaring towards its target, in the 1957-58 edition. Another photograph showing "Regulus I" being hauled into deck hangar with another missile already in position, in the 1959-60 edition.

Transport Submarines (APSS)
Amphibious Troop-carrying Type
2 Converted "Balao" Class

AP SS 313 PERCH		**AP SS 315 SEALION**
Name	*Perch*	*Sealion*
Builders:	Electric Boat Div., Groton	Electric Boat Div., Groton
Laid down:	5 Jan. 1943	25 Feb. 1943
Launched:	12 Sep. 1943	31 Oct. 1943
Completed:	7 Jan. 1944	8 Mar. 1944
Displacement:	1,526 tons *standard*, 1,900 tons *surface* (2,500 tons *submerged*)	
Dimensions:	311½ × 27 × 17 feet	
Guns:	*Sealion* 1—5 inch, 25 cal.; 1—40 mm. AA. *Perch unarmed*	
Machinery:	2 General Motors diesels. S.H.P.: 2,305 (*surface*). (2 of 4 engines were removed for additional troop space which reduced speed to 13 kts.)	
Oil fuel:	300 tons	
Radius:	12,000 miles at 10 kts.	
Complement:	80 (can carry 160 Marines, Commandos or Frogmen)	

General Notes
Perch was converted at Mare Island Naval Shipyard in 1948, and *Sealion* was converted at San Francisco Naval Shipyard, to carry 160 troops each. The large cylindrical chamber abaft the conning tower on the after deck is a water tight storage space for the stowage of amphibious landing equipment. Both vessels were formerly fleet type submarines of "Balao' class, see earlier page. Now classed as "Amphibious Vessels Submarine Transport." Conversion of *Sealion* completed 15 Dec. 1948. Torpedo tubes removed. In 1960 *Perch* was decommissioned and *Sealion* was assigned to Naval Reserve training. Both recommissioned in Oct. and Nov. 1961.



SEALION 1957, *U.S. Navy, Official*

Photograph Notes
A photograph of *Perch*, showing amphibious hangar, appears in the 1949-50 to 1959-60 editions.

Appearance Notes
Observe how the hull bulges out abaft the conning tower.

Recent Disposal
The converted "Gato" class experimental submarine *Flying Fish*, AGSS 229, was scrapped in 1959.

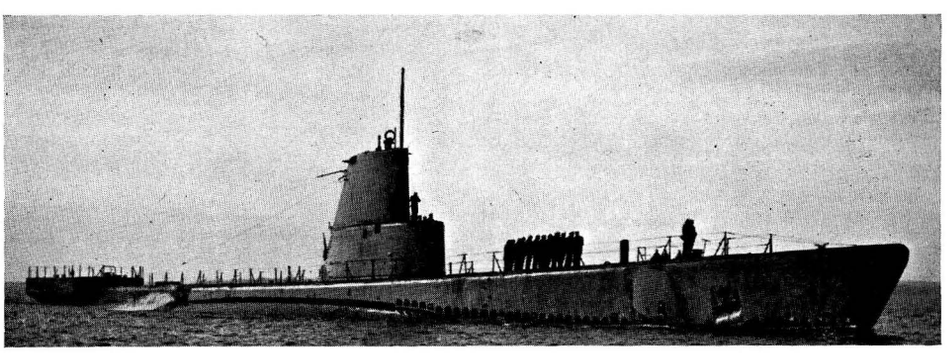
Submarine Oiler AOSS, ex-AGSS, ex-SSO

1 Converted "Balao" Class

AOSS
362 GUAVINA

Builders:	Manitowoc Shipbuilding Co.
Launched:	29 Aug. 1943
Completed:	23 Dec. 1943
Displacement:	1,750 tons *standard*, 2,000 tons *surface* (2,730 tons *submerged*)
Dimensions:	311½ × 37 × 17 feet
Machinery:	4 General Motors diesels. S.H.P.: 4,160=16 kts.
Oil fuel:	300 tons (own fuel)
Radius:	12,000 miles at 10 kts.
Complement:	70

General Notes
Before conversion into a Submarine Oiler this vessel was a conventional fleet submarine of the "Balao" class, see earlier page. Fitted out at Mare Island Naval Shipyard at a cost of $2,000,000 with exterior tanks for bulk liquids and special compartments which permit cargo in watertight cases to be discharged while the craft is submerged. Beam increased from 27 to 37 feet. Re-commissioned 1 Feb. 1950. Formerly classified as Submarine Oiler, SSO, but later reclassified as AGSS (Auxiliary Submarine), and again reclassified as AOSS on 22 June 1957. Fitted for refuelling seaplanes. Now assigned to naval reserve training.



GUAVINA *Added* 1959, *Wright & Logan*

Photograph Notes
Starboard broadside view in the 1955-56 to 1957-58 editions. Starboard quarter view, showing stern tank, in the 1957-58 to 1959-60 editions.

New Construction (Maritime Administration)
In 1959 a contract was awarded to the Electric Boat Division, General Dynamics Corporation, Groton, Conn., for the preparation of drawings and testing of models of a 20-kt. 20,000 tons deadweight nuclear powered submarine tanker for the Maritime Administration.

FLEET MINELAYER (MMF)

1 Large Type
Formerly rated as
Cruiser Minelayer (CM)

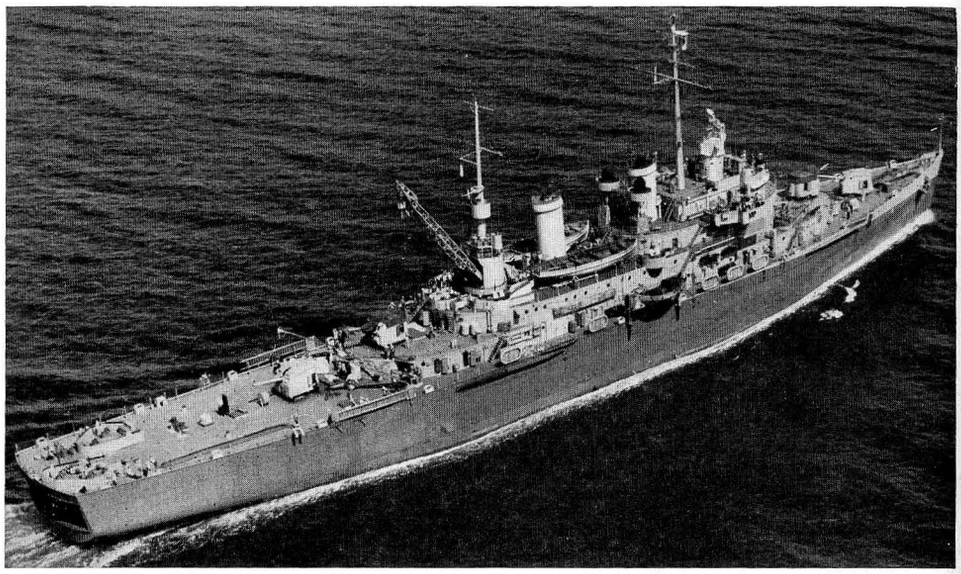
MMF
5 TERROR

Builders:	Philadelphia Navy Yard
Launched:	6 June 1941
Completed:	1942

Displacement:	5,875 tons *standard* (8,650 tons *full load*)
Dimensions:	453⅜ (*o.a.*) × 60¼ × 20(*max.*) feet
Guns:	4—5 inch, 38 cal., 24—40 mm. (quadruple mounts)
Mines:	800
Machinery:	Geared turbines. 2 shafts. S.H.P.: 11,000=20 kts.
Complement:	400 (war)

Notes

Built under the 1938 Program. Built by Philadelphia Navy Yard. Launched on 6 June 1941. Completed in 1942. Mine ports in stern. Cruiser type with high freeboard. Out of commission, in reserve. Formerly known as a Large (Cruiser) Minelayer (CM) but reclassified as a Fleet Minelayers (MM) in Feb. 1955 and designated MMF in 1956.



TERROR — 1950, *U.S. Navy, Official*

MINE COUNTERMEASURES SUPPORT SHIPS (MCS)

1 Converted Large Minelayer Type

MCS
2 OZARK (ex-LSV2, ex-*CM* 7, 15 June 1942)

Displacement:	5,875 tons *standard* (9,040 tons *full load*)
Dimensions:	440 (*w.l.*), 455½ (*o.a.*) × 60¼ × 20 feet
Guns:	2—5 inch, 38 cal., d.p. 8—40 mm. AA.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 11,000=20·3 kts.
Boilers:	4 Combustion Engineering type
Complement:	564

Notes

Built by Willamette Iron and Steel Corpn., Portland, Oregon, under the 1940 Program. Launched on 15 June 1942. Designed as a Large Minelayer (see photo) but subsequently converted into a Landing Ship (Vehicle), LSV. Out of commission, in reserve. Reclassified as Mine Warfare Command and Support Ship and redesignated MCS in 1955. Again reclassified as Mine Countermeasures and Support Ship in 1958, and as Mine Countermeasures Support Ship on 25 Aug. 1960. Stricken from the Navy List on 1 Sep. 1961, but is to be converted into the new conception of a Mine Countermeasures Support Ship under the Fiscal Year 1963 Shipbuilding and Conversion Program.

Conversion Notes

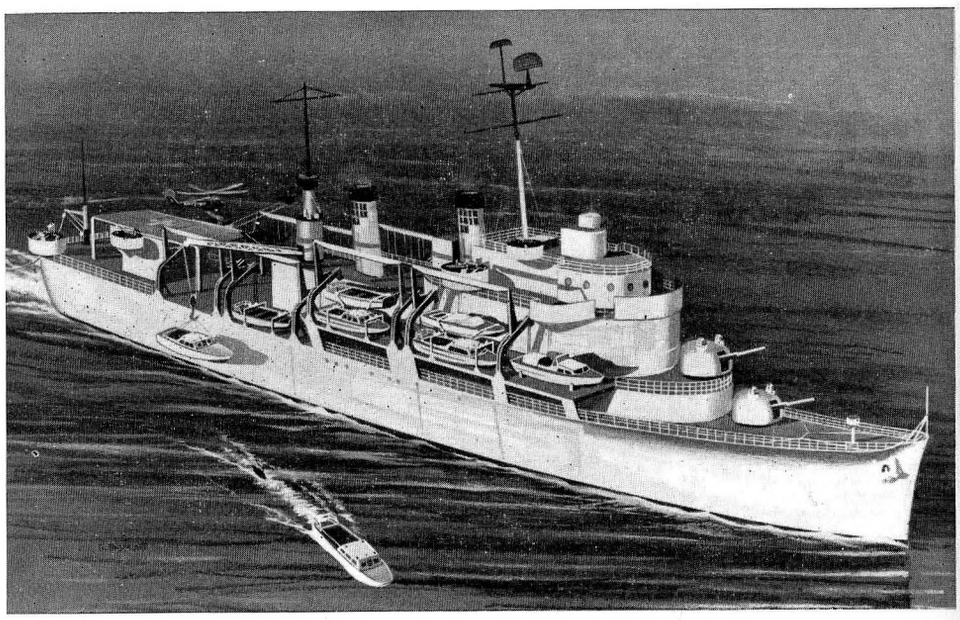
It is officially stated that this conversion of a former Vehicle Landing Ship (LSV) will be capable of transporting, maintaining, operating and supporting twenty 36-foot minesweeping launches (MSL) and two helicopter mine sweepers. These capabilities will provide a high degree of mobility to minesweeping operations. It will be used mainly in forward areas in support of amphibious landing operations. It will be capable of controlling and providing limited support for MSO (Ocean) and MSC (Coastal) type minesweepers, and helicopters. Requested in the 1963 Conversion Program, this will be the first conversion of this type.

Recent Disposals

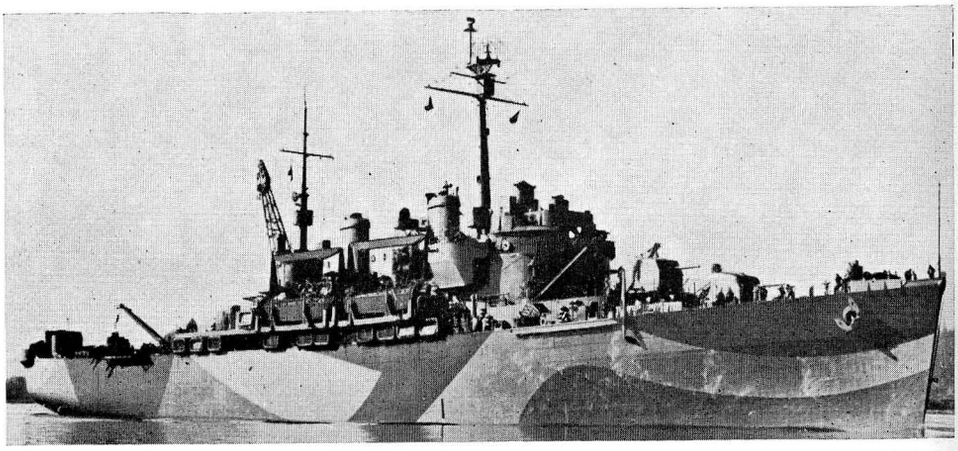
Sister ship *Catsgill*, MCS 1 (ex-LSV 1, ex-CM 6) was stricken from the Navy List on 1 Sep. 1961.

Of the three vessels of the original netlayer type converted into vehicle landing ships, *Saugus*, MCS 4 (ex-LSV 4, ex-AN 4) was stricken from the Navy List on 1 July 1961, and *Monitor*, MCS 5 (ex-LSV 5, ex-AN 5) and *Qsage*, MCS 3 (ex-LSV 3, ex-AN 3), were stricken from the Navy List on 1 Sep. 1961.

The netlayer *Galilea* (ex-*Montauk*), AKN 6 (ex-LSV 6, ex-AN 2, ex-AP 161) was also stricken from the Navy List on 1 Sep. 1961.



OZARK (conversion) — 1962, *United States Navy, Official*



OZARK (wartime photo) — *Added* 1957, *U.S. Navy, Official*

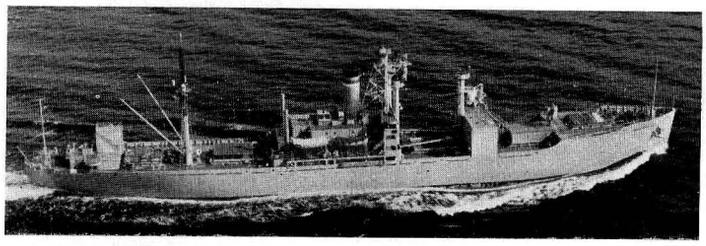
1 LST Type

MCS 6 ORLEANS PARISH

Notes

The tank landing ship *Orleans Parish*, ex-LST 1069, see later page, was reclassified MCS 6 on 19 Jan. 1959.

BALLISTIC MISSILE TEST VESSELS



RANGE TRACKER 1962, *United States Navy, Official*

7 Missile Range Instrumentation Ships
" Victory " Type

T-AGM 1 (ex-T-AG 160) **RANGE TRACKER** (ex-*S.S. Skidmore Victory*, MCV 685)
T-AGM 3 LONG VIEW (ex-*Haiti Victory*, *T-AK* 238)
T-AGM 4 RICHFIELD (ex-*Private Joe E. Mann*, *T-AK* 253, ex-*Owensboro Victory*)
T-AGM 5 SUNNYVALE (ex-*Dalton Victory*, *T-AK* 256)
T-AGM 6 WATERTOWN (ex--*S.S. Niantic Victory*)
T-AGM 7 HUNTSVILLE (ex-*S.S. Knox Victory*)
T-AGM 8 (ex-*Seton Hall*, *Victory*)

Displacement:	7,190 tons (*Navy light*), 10,680 tons *full load*
Dimensions:	455 (*o.a.*) × 62 × 24 (*max.*) feet
Machinery:	Geared turbines. S.H.P.: 8,500 = 18 kts.
Complement:	90

Notes

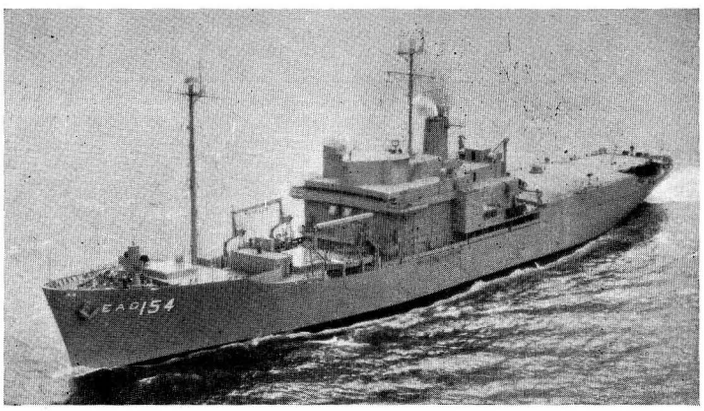
T-AGM 1:—The 9,000-ton conversion of *Skidmore Victory* to a missile range instrumentation ship, AG, was requested in the Fiscal Year 1960 Conversion Program. She was converted by Ingalls Shipbuilding Corporation, Pascagoula, Mississippi, and assigned to Pacific Missile Range as *Range Tracker*. Fitted with telemetry, navigation, timing, aerology, radio command, and surveillance equipment. MSTS civil service crew of 17 officers, 42 men, and 30 civilian electronic specialists.

T-AGM 3 and T-AGM 5:—*Dalton Victory* and *Haiti Victory* (both USNS) were specially equipped to recover satellite capsules or missiles in the Pacific Missile Range, and are fitted with a helicopter deck and hangar for two helicopters. Also fitted with radar plotting equipment, weather sounding devices, and telemetry receivers. The two ships were re-classified and renamed in 1960. Based at Honolulu, Hawaii.

T-AGM 4:—*Private Joe E. Mann* was fitted out as a range instrumentation and telemetry ship for the Pacific Missile Range in Oct. 1958. Based at Pt. Mugu, Calif. as a tracking and recovery ship. Reclassified and renamed in 1960.

T-AGM 6 and T-AGM 7:—Acquired, converted, reclassified and renamed in 1960-61.

T-AGM 8:—(VC-2 conversion) to be converted in FY 1962 program at New York Naval Shipyard.



OBSERVATION ISLAND 1960, *United States Navy, Official*

1 Experimental Firing Ship

EAG 154 OBSERVATION ISLAND (ex-*YAG* 57, ex-*S.S. Empire State Mariner*)

Displacement:	15,000 tons
Dimensions:	529½ × 76½ × 29 feet
Machinery:	General Electric geared turbines. S.H.P.: 19,250 = 20 kts.
Complement:	350

General Notes

Built by New York Shipbuilding Corporation, Camden, New Jersey. Converted by Norfolk Naval Shipyard, Portsmouth, Virginia. Commissioned on 5 Dec. 1958. Experimental vessel for the firing of " Polaris " Guided Missiles (intermediate range inter-continental ballistics missile) in the scheduled programme of test ships for inter-continental ballistic missiles classed as miscellaneous auxiliaries (experimental), EAG.

Missile Notes

The ship is fitted for complete missile testing, fuelling, servicing and firing. She is fitted with intermediate range missile launching equipment to test and evaluate Polaris missiles for launching from surface ships. A new launching tube was installed at Norfolk Naval Shipyard in 1960 to replace one of two tubes formerly installed. The new tube is fitted at a fixed angle. A tiltable tube remains but a vertically fixed tube has been replaced—both of these were submarine missile launching experiments.

Eight to ten different submarine designs and several surface ship designs including one for battleships, are being developed, for carrying the " Polaris " intermediate range ballistics missile. She carries two " Polaris " missile launchers.

She fired the first Polaris missile, ship launched, at sea on 27 Aug. 1959. The 28-foot test version of the Polaris was forced 70 feet above the deck by compressed air after which its first stage engine ignited.

The ship is installed with complex navigational equipment designed to pinpoint long range surface-to-surface missile firings. She was fitted with the second " Polaris " missile launching tube in Sep. 1959 at Norfolk Naval Shipyard.

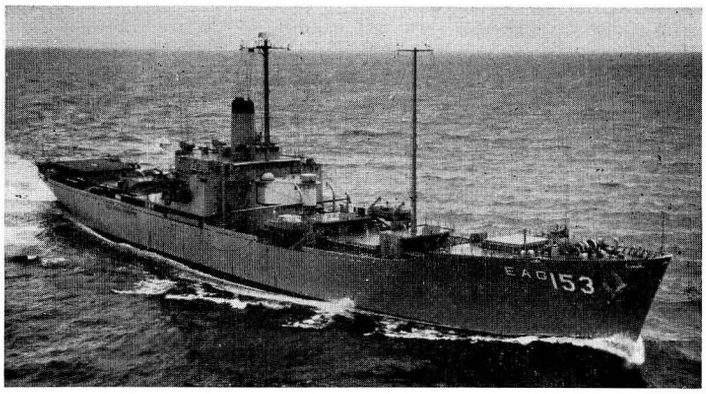
Conversion Notes

This vessel was being converted by Norfolk Naval Shipyard, Portsmouth, Virginia, but the conversion was postponed due to the change from " Jupiter " to " Polaris " guided missiles. The conversion recommenced on 15 Oct. 1957 for " Polaris " guided missiles. Conversion cost $20,000,000.

Photograph Notes

A large starboard bow surface view of *Observation Island* appears in the 1959-60 edition.

Ballistic Missile Test Vessels—*continued*



COMPASS ISLAND 1960, *United States Navy, Official*

1 Experimental Navigational Ship

EAG 153 COMPASS ISLAND (ex-*YAG* 56, ex-*S.S. Garden Mariner*)

Measurement:	17,600 tons
Dimensions:	529½ × 76½ × 29 feet
Machinery:	General Electric geared turbines. S.H.P.: 19,250 = 20 kts.

General Notes

Built by New York Shipbuilding Corporation, Camden, New Jersey. Converted by New York Naval Shipyard. Commissioned on 3 Dec. 1956. A major forward step in the development of one of the United States Navy's top priority projects—the Fleet Ballistic Missile—was taken on 3 Dec. 1956 when the experimental navigational ship *Compass Island* (EAG 153) was commissioned at the New York Naval Shipyard, Brooklyn.

The mission of *Compass Island* is to assist in the development and evaluation of a navigation system indepedent of shore-based aids.

The *Compass Island* was acquired by the Navy from the Maritime Administration. She has been modernized to provide excellent living spaces for her crew and also has space for a large number of scientists to work and live aboard.

Navigation Notes

The key to the ultimate, all-weather, all-latitude, day-and-night capability is the Ship Inertial Navigational System (S.I.N.S.) which is based on fundamental investigations and research performed for the Navy by the Instrumentation Laboratory, Massachusetts Institute of Technology. The S.I.N.S. determines ship position (latitude and longitude), true north, and ship speed over the ground. Refinements to the basic system and manufacture of the first production units are being accomplished by the Marine Division of the Sperry Gyroscope Company.

To check and periodically correct the S.I.N.S., the *Compass Island* will take to sea several celestial trackers or miniature observatories. The trackers, when once pointed toward heavenly bodies, will automatically track these bodies, giving continuous celestial information for determining position.

The miniature observatories are mounted on a 67-ton navigational tower located just forward of the ship's superstructure. This tower provides a rigid structure isolated from ship flexures, to give fixed reference planes from which to make celestial computations.

A complex airfoil-shaped dome has been appended to the bottom of the ship's hull to house special sonar equipment developed by the Navy's Bureau of Ships and the General Electric Corporation to measure the ship's speed. This huge dome is designed to make the reading of sonar echoes easier and more precise while the ship is steaming. Because of the Dome's projection downward from the ship's bottom, ship-workers have nicknamed the converted vessel the " ship with the droop snoot."

The perfected navigational system will not only aid missile ships, but eventually may help all types of ships from ocean going liners to the smallest motorboat. It also may bring about revolutionary changes in the field of cartography. Even after approximately 10 centuries of development, the science of navigation is still insufficiently accurate for long-range surface-to-surface missile launching and present-day maps and charts suffer from varying degrees of inaccuracy. With the perfection of new navigational techniques, these maps and charts can be made extremely accurate.

Stabilization Notes

Compass Island, formerly the fast Mariner-class cargo ship *Garden Mariner*, is one of the most comfortable riding ships in the Navy. She has the best automatic steering available, and in addition has activated fins for roll-stabilization. This system was developed in the U.S. by the Sperry Gyroscope Company, Division of Sperry-Rand Corporation. When her sister ships are rolling 15 degrees, *Compass Island*, in the same seaway, will roll about a degree and a half—a 90 per cent reduction in roll.

Conversion Notes

Conversion work on the *Compass Island* was very rapid. It began in early July at the New York Naval Shipyard, and she had her first sea trials on 19 Nov. 1956. Work involving new installations normally would require at least 18 months to complete.

Photograph Notes

A large starboard broadside aerial view of *Compass Island* appears in the 1958-59 and 1959-60 editions, and a large starboard quarter oblique aerial view in the 1957-58 edition.

1 Missile Range Telemetry Ship
Small Type

T-AGM 2 (ex-T-AG 161) **RANGE RECOVERER** (ex-*FS* 278)

Displacement:	550 tons
Dimensions:	Length: 176 feet
Complement:	21

Notes

T-AGM 2:—Acquired from the Army in 1960. Instrumentation and telemetry ship for the Pacific Missile Range, replacing *King County*, MSTS Civil Service crew. Reclassified from T-AG 161 to T-AGM 2 in 1960. AKL type.

1 Major Communications Relay Ship

AGMR

Notes

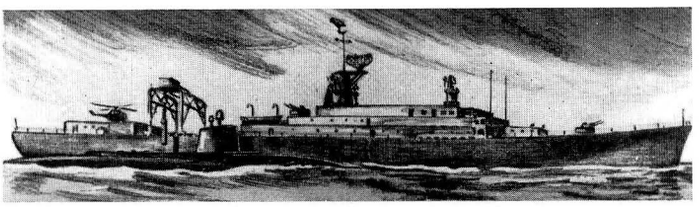
Major Communications Relay Ship. Conversion of an ex-CVE 105 class hull (" Commencement Bay " class escort carrier) to provide mobile communications for the Operating Forces of the Navy. Equipped with specially designed antenna systems and will be capable of operating for protracted periods of time underway or at advance or remote locations. This FY 1962 conversion has been delayed until 1963. See page 311.

Fleet Ballistic Missile Ship

Cancellation Notes

The proposed conversion from a " Mariner " type cargo ship into the Fleet Ballistic Missile Ship **EAG 155**, equipped for long range operations, is no longer planned.

SUBMARINE TENDERS (AS)



1962, *United States Navy, Official*

1 New Construction AS (FBM)

Notes

Requested in the Fiscal Year 1963 Program. This ship is the third new construction AS but is of new and improved design over those provided in the 1960 and 1962 programs. Her primary purpose is to provide full mobile base facilities and support for nuclear powered submarines including FBM submarines. This includes a full nuclear reactor support capability and facilities for handling, replacement and limited servicing of the Polaris missiles. She is designed to support fully nine SSBNs with as many as three simultaneously receiving complete alongside services. A large gantry crane with athwartships bridge travel will be provided in order to on and off load missiles and nuclear containers from the submarines. To be built by Puget Sound Naval Shipyard, Bremerton, Wash. for $73,000,000.



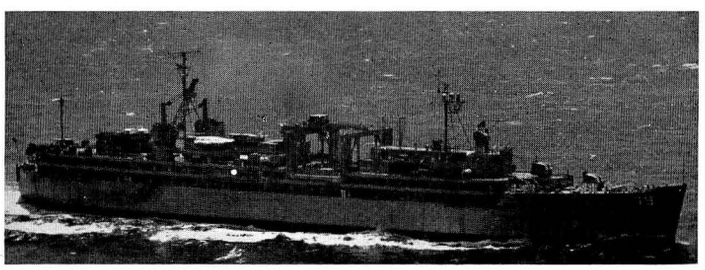
HUNLEY 1962, *United States Navy, Official*

2 " Hunley " Class

AS 31 HUNLEY		**AS 32 HOLLAND**
Displacement:	10,500 tons *standard* (18,300 tons *full load*)	
Dimensions:	599 × 83 feet	
Guns:	4—3 inch, 50 cal., in twin mounts	
Machinery:	Diesel electric (see *Notes*)	
Complement:	1,081 (58 officers, 1,023 men) plus accommodation for 30 officers and 270 men from submarines.	

Notes

Tenders for serving " Polaris " submarines. *Hunley* was authorised in the Fiscal Year 1960 new construction program. Newport News Shipbuilding & Drydock Co., Newport, Virginia, received a fixed price contract totalling $28,680,000 for the construction of this vessel. She will provide guided weapon and nuclear logistic support to the Navy's fleet ballistic missile submarines. A large hammerhead crane of 32½ ton capacity with athwartships bridge travel, the only one of its kind aboard a ship, is installed to on and off load missiles from submarines. For propulsion she will have 10 Fairbanks-Morse diesels generating 12,000 Kw., A.C. Laid down on 28 Nov. 1960. Launched on 29 Sep. 1961. Commissioned on 16 June 1962. The U.S. Navy's largest tender. To be homeported at Holy Loch, Scotland. *Holland* was authorised under the 1962 program. Contract awarded to Ingalls Shipbuilding Corporation for $24,359,800. Laid down on 5 Mar. 1962.



PROTEUS (now lengthened by 44 feet) *Added* 1961, *United States Navy, Official*

7 " Fulton " Class

4 Mare Island Navy Yard		*2 Moore Dry Dock Co., Oakland, Calif.*
BUSHNELL (14 Sep. 1942)		**ORION** (14 Oct. 1942)
FULTON (27 Dec. 1940)		**PROTEUS** (12 Nov. 1942)
HOWARD W. GILMORE (ex-*Neptune*, 16 Sep. 1943)		*1 Puget Sound Navy Yard*
SPERRY (17 Dec. 1941)		**NEREUS** (12 Feb. 1945)
Displacement:	9,734 tons *standard* (18,000 tons *full load*) (*Proteus* 10,234 tons *standard*, 18,500 tons *full load*)	
Dimensions:	530½, *Proteus* 574½ (*o.a.*) × 73½ × 25½ (*max.*) feet	
Guns:	2—5 inch, 38 cal. After 2—5 inch guns and ten 40 mm. A.A. guns removed in Sep. 1960	
Machinery:	G.M. diesels with electric drive. B.H.P.: 11,200 = 15·4 kts.	
Complement:	950 to 1,300	

General Notes

Fulton authorised under 1938 Program, others under 1940. Nos. AS 15, 11, 16, 12, 18, 19, 17 respectively. Launch dates above. Ships vary in detail.

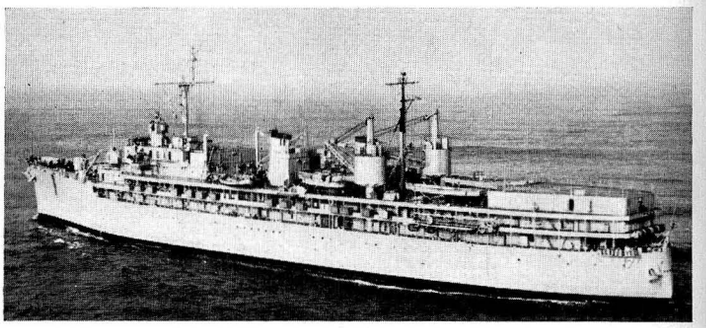
Photograph Notes

Photographs of *Fulton* in the 1958-59 and 1959-60 editions and *Orion* in the 1950-51 to 1957-58 editions.

Conversion Notes

Proteus, AS 19, was converted at the Charleston Naval Shipyard, under the Fiscal Year 1959 conversion program, at a cost of $23,000,000, to serve the Nuclear Powered Fleet Ballistic Missile Submarine, SSBN, Squadron. Conversion started on 19 Jan. 1959 and she was recommissioned on 8 July 1960. She was lengthened by adding a section amidships 44 feet in length, and the bare hull weight of this 6-deck high insertion is approximately 500 tons.

Submarine Tenders—*continued*



NEREUS (after FRAM conversion) 1961, *United States Navy, Official*

Nereus, AS 17, underwent a 4-month conversion in Nov. 1959 to Feb. 1960, for facilities to service nuclear powered submarines. Her after guns were removed and her upper decks extended aft to provide additional workshops.

Bushnell, Fulton, Howard W. Gilmore, Orion and *Sperry* have also undergone FRAM II conversion to handle nuclear powered submarines.

2 " Aegir " Class

AEGIR		**APOLLO**
Displacement:	8,100 tons *standard* (16,100 tons *full load*)	
Dimensions:	492 (*o.a.*) × 69½ × 26½ (*max.*) feet	
Guns:	1—5 inch, 38 cal., 4—3 inch, 50 cal.	
Machinery:	Westinghouse geared turbines. S.H.P.: 8,500 = 18·4 kts.	

Notes

Nos. AS 23, 25 respectively. All launched in 1943 and completed in 1944. Built by Ingalls Shipbuilding Corp. C3-S-A2 type. Out of commission, in reserve. *Anthedon*, AS 24 and *Clytie*, AS 26 were stricken from the list of naval vessels on 1 Sep. 1961.

EURYALE (ex-S.S. *Hawaiian Merchant*)

Displacement:	8,282 tons *standard* (15,400 tons *full load*)
Dimensions:	492½ (*o.a.*) × 69½ × 25 feet
Guns:	1—5 inch, 38 cal., 4—3 inch, 50 cal.
Machinery:	De Laval geared turbine. S.H.P.: 8,500 = 16·5 kts.

Notes

No. AS 22. Launched in 1941. Acquired and commissioned in 1943. Modified C3 type. Out of commission, in reserve.

2 " Griffin " Class

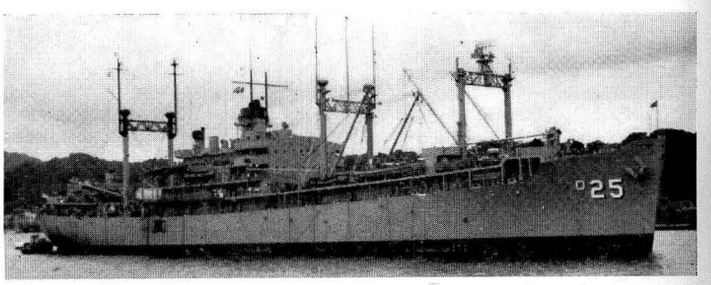
GRIFFIN (ex-*Marmacpenn*, 10 Nov. 1939) **PELIAS** (ex-*Mormacyork*, 14 Nov. 1939)

Displacement:	8,600 tons *standard* (14,500 tons *full load*)
Dimensions:	492 × 69½ × 24¼ (*max.*) feet
Guns:	4—3 inch, 50 cal.
Machinery:	4 sets Busch-Sulzer diesels. B.H.P.: 8,500 = 16·5 kts.
Complement:	1,513

Notes

C3 Cargo type. Nos. AS 13, 14. Launch dates above. Completed on 31 July 1941 and 5 Sep. 1941, respectively. Out of commission, in reserve. A photograph of *Pelias* appears in the 1952-53 to 1960-61 editions.

DESTROYER TENDERS (AD)



FRONTIER 1962, *Hiroyuki Otani*

9 " Arcadia " Class

ARCADIA (19 Nov. 1944)
BRYCE CANYON (7 Mar. 1946)
EVERGLADES (28 Jan. 1945)
FRONTIER (25 Mar. 1945)
GRAND CANYON (27 Apr. 1945)
ISLE ROYALE (19 Sep. 1945)
SHENANDOAH (29 Mar. 1945)
TIDEWATER (30 June 1945)
YELLOWSTONE (12 Apr. 1945

Displacement:	8,165 tons *standard* (16,635 tons *full load*)
Dimensions:	465 (*w.l.*), 492 (*o.a.*) × 69½ × 27¼ feet
Guns:	1—5 inch, 4—3 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 18·4 kts.
Boilers:	2 Foster-Wheeler or Babcock & Wilcox
Complement:	826

General Notes

Constructed by Todd Shipyards and other builders. Nos. AD 23, 36, 24, 25, 28, 29, 26, 31, 27, respectively. Three other ships (*Arrowhead, Canopus, New England*) were cancelled in 1945, and a fourth (*Great Lakes*) sold. *Frontier* was commissioned on 2 Mar. 1946. *Bryce Canyon* was completed on 20 Dec. 1949. C 3 type. Ships vary in appearance. *Shenandoah* is fitted with ASROC and DASH shops, and a helo platform. Sister ship *Klondike*, AD 22, recommissioned in 1959, replacing *Hooper Island*, and was reclassified as AR 22 on 20 Feb. 1960. (see next page). *Isle Royale* recommissioned on 9 June 1962 to replace *Hamul*.

Photograph Notes

A photograph of *Grand Canyon* appears in the 1958-59 to 1961-62 editions.

1 " Cascade " Type

CASCADE

Displacement:	9,800 tons *standard* (16,600 tons *full load*)
Dimensions:	492 (*o.a.*) × 69½ × 27½ (*max.*) feet
Guns:	2—5 inch, 38 cal., 6—40 mm. AA.
Machinery:	Turbines. S.H.P.: 8,500 = 18·4 kts.
Complement:	860

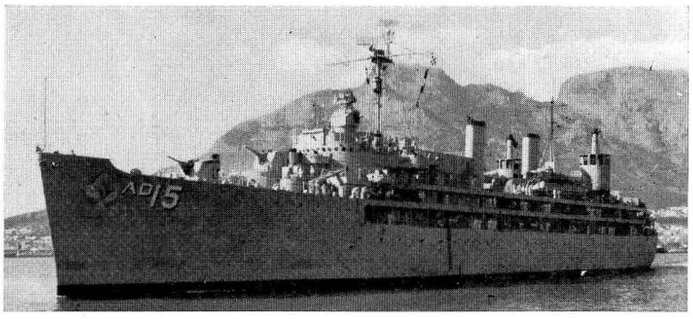
Notes

No. AD 16. Built by Western Pipe & Steel Co., San Francisco. C3-S1-N2 type. Launched on 7 June 1942 and commissioned on 12 Mar. 1943.

Recent Disposals

Of the " Hamul " class, *Hamul* (ex-*Dr. Lykes*), AD 20, was decommissioned and transferred to the Maritime Administration on 9 June 1962, and sister ship *Markab*, AD 21, was reclassified as AR 23 on 15 Apr. 1960 and recommissioned in 1960 to replace *Luzon* (see Repair Ships).

Destroyer Tenders—*continued*



PRAIRIE

5 "Dixie" Class

Added 1962

2 *New York S.B. Corpn.*
DIXIE (27 May 1939)
PRAIRIE (9 Dec. 1939)

3 *Tampa S.B. Co.*
PIEDMONT (7 Dec. 1942)

SIERRA (23 Feb. 1943)
YOSEMITE (16 May 1943)

Displacement:	9,450 tons *standard* (17,176 tons *full load*)
Dimensions:	520 (*w.l.*), 530½ (*o.a.*) × 73½ × 25½ feet
Guns:	2—5 inch 38 cal.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 11,000 = 19·6 kts.
Complement:	1,262 (war)

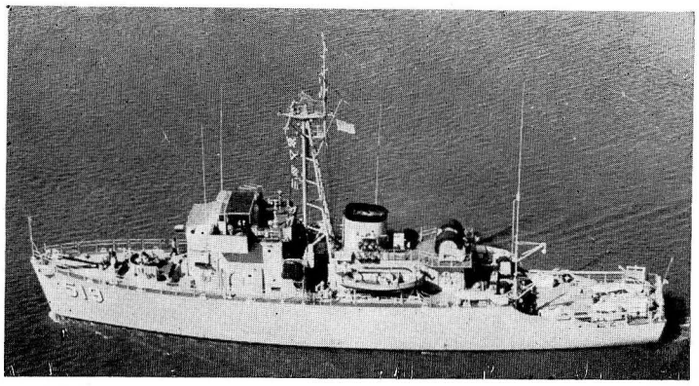
General Notes

Nos. AD 14, 15, 17, 18, 19, respectively. Launch dates above. First two commissioned in 1940, the others in 1944. Photograph of *Dixie* in the 1954-55 to 1957-58 editions.

Conversion Notes

All have undergone FRAM II conversion with helicopter platform and hangar; heliport and repair facilities to service DASH drones and store homing torpedoes, and bays for guided missile servicing. The two after 5 inch guns and the eight 40 mm. AA. guns have been removed.

OCEAN MINESWEEPERS (Non-Magnetic) MSO



ABILITY

United States Navy, Official

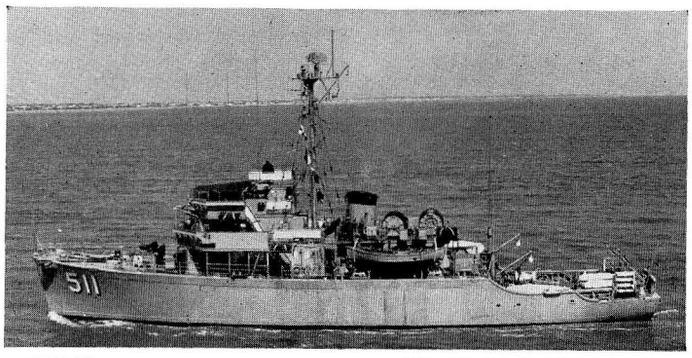
3 "Ability" Class

MSO		MSO	
519 ABILITY	29 Dec. 1956	**520 ALACRITY**	8 June 1957
		521 ASSURANCE	31 Aug. 1957

Displacement:	801 tons *light* (963 tons *full load*)
Dimensions:	189 × 36 × 11 feet
Guns:	1—40 mm. A..
Machinery:	2 General Motors diesels. B.H.P.: 2,700 = 15 kts. Controllable pitch propellers
Complement:	82 (7 officers, 75 men)

Notes

Non-magnetic, wooden hulled vessels built by Petersen Builders Inc., Sturgeon Bay, Wisc. Last of Fiscal 1955 program to be awarded. Designed to serve as mine division commander's flagships. Equipped to conduct all types of mine countermeasures operations. Laid down on 5 Mar. 1956, 3 May 1956 and 28 Jan. 1957, respectively. Launch dates above. *Assurance* commissioned on 21 Nov. 1958.



AFFRAY

1961, *United States Navy, Official*

4 "Acme" Class

MSO	*Launched*	MSO	*Launched*
508 ACME	23 June 1955	**510 ADVANCE**	12 July 1957
509 ADROIT	20 Aug. 1955	**511 AFFRAY**	18 Dec. 1956

Displacement:	720 tons *light* (790 tons *full load*)
Dimensions:	173 (*o.a.*) × 35 × 10 feet
Guns:	1—40 mm., 56 cal. Bofors AA.
Machinery:	2 Packard diesels. 2 shafts. B.H.P.: 2,800 = 14 kts.
Oil fuel:	50 tons
Radius:	3,000 miles at 10 kts.
Complement:	74

Notes

Different class from "Agile" type but have similar basic particulars. *Affray*, fourth of the new class, commissioned on 8 Dec. 1958. Fitted with flagship facilities.

Ocean Minesweepers—*continued*



VITAL

Added 1960, *Wright & Logan*



PINNACLE

1960, *Skyfotos*

57 "Agile" Class

MSO		MSO	
421 AGILE	(19 Nov. 1955)	**449 IMPERVIOUS**	(29 Aug. 1952
422 AGGRESSIVE	(4 Oct. 1952)	**455 IMPLICIT**	(1 Aug. 1953)
423 AVENGE	(15 Mar. 1953)	**456 INFLICT**	(16 Oct. 1953)
424 BOLD	(14 Mar. 1953)	**457 LOYALTY**	(22 Nov. 1953)
425 BULWARK	(14 Mar. 1953)	**458 LUCID**	(14 Nov. 1953)
426 CONFLICT	(16 Dec. 1952)	**459 NIMBLE**	(6 Aug. 1954)
427 CONSTANT	(14 Feb. 1952)	**460 NOTABLE**	(15 Oct. 1954)
428 DASH	(20 Sep. 1952)	**461 OBSERVER**	(19 Oct. 1954)
429 DETECTOR	(5 Dec. 1952)	**462 PINNACLE**	(3 Jan. 1955)
430 DIRECT	(27 May 1953)	**463 PIVOT**	(9 Jan. 1954)
431 DOMINANT	(5 Nov. 1953)	**464 PLUCK**	(6 Feb. 1954)
432 DYNAMIC	(17 Dec. 1952)	**466 PRIME**	(27 May 1954)
433 ENGAGE	(ex-*Elusive*, 18 June 1953)	**467 REAPER**	(25 June 1954)
434 EMBATTLE	(27 Aug. 1953)	**468 RIVAL**	(15 Aug. 1953)
435 ENDURANCE	(9 Aug. 1952)	**469 SAGACITY**	(20 Feb. 1954)
436 ENERGY	(13 Feb. 1953)	**470 SALUTE**	(14 Aug. 1954)
437 ENHANCE	(11 Oct. 1952)	**471 SKILL**	(23 Apr. 1955)
438 ESTEEM	(20 Dec. 1952)	**472 VALOR**	(13 May 1953)
439 EXCEL	(25 Sep. 1953)	**473 VIGOR**	(24 June 1953)
440 EXPLOIT	(10 Apr. 1953)	**474 VITAL**	(12 Aug. 1953)
441 EXULTANT	(6 June 1953)	**488 CONQUEST**	(20 May 1954)
442 FEARLESS	(17 July 1953)	**489 GALLANT**	(4 June 1954)
443 FIDELITY	(21 Aug. 1953)	**490 LEADER**	(15 Sep. 1954)
444 FIRM	(15 Apr. 1953)	**491 PERSISTANT**	(23 Apr. 1955)
445 FORCE	(26 June 1953)	**492 PLEDGE**	(20 July 1955)
446 FORTIFY	(14 Feb. 1953)	**493 STALWART**	(3 Dec. 1955)
447 GUIDE	(17 Apr. 1954)	**494 STURDY**	(28 Jan. 1956)
448 ILLUSIVE	(12 July 1952)	**495 SWERVE**	(1 Nov. 1955)
		496 VENTURE	(27 Nov. 1956)

Displacement:	665 tons *light* (750 tons *full load*)
Dimensions:	165 (*w.l.*) 171 (*o.a.*) × 35 × 9½ (*mean*), 11 (*max.*) feet
Guns:	1—40 mm.
Machinery:	2 Packard diesels. 2 shafts. Controllable pitch propellors. B.H.P.: 2,280 = 15·5 kts. *Dash*, *Detector*, *Direct* and *Dominant* have 2 General Motors diesels, 1,520 B.H.P.; (*Venture* has 2 diesels, 1,200 B.H.P.)
Oil fuel:	46 tons
Radius:	2,400 miles at 12 kts.
Complement:	72 to 75

General Notes

These ships have wooden hulls and non-magnetic equipment, with diesels of non-magnetic stainless steel alloy. *Aggressive*, *AM* 422, was built by Luders Marine Const. Co., Stamford Conn. Cost $3,500,000. Laid down on 25 May 1951 ,commissioned on 25 Nov. 1953. *Illusive*, *AM* 448, was built by Martinlock S.B. Co., San Diego, was commissioned on 14 Nov. 1953, *Bold*, *AM* 424, and *Bulwark*, *AM* 425, were built by Norfolk Navy Shipyard, and the remainder by private yards. All the above vessels, formerly known as wooden Minesweepers (AM) were reclassified as Minesweepers, Ocean (Non-magnetic) (MSO) in Feb. 1955. Launch dates above. A total of 100 MSO were built in the U.S.A. for the U.S. Navy and the Mutual Defence Assistance Program.

Transfer Notes

Nos. 450-454, 475-487, 498-507, 512-518 were built for foreign countries under MDAP and no U.S. names were allocated. 8 were transferred to France, 6 to the Netherlands, 4 to Portugal, 4 to Belgium, 2 to Norway, and 2 to Italy.

MDAP Nos. 506 and 507 were launched on 13 Nov. 1954 and 19 Feb. 1955, respectively, and transferred to Italy in 1956.

MSO 522, built by Petersen Builders Inc., Sturgeon Bay, Wisc. under the Fiscal Year 1958 Program, similar to MSO 512 class, was transferred to Belgium in Dec. 1960.

Recent Casualties

Prestige was stranded in the Naruto Straits, Inland Sea, Japan, on 23 Aug. 1958, and was abandoned as a total loss ,and she has been stricken from the Navy List. *Exultant* caught fire after an explosion off the coast of Savannah, Georgia, on 12 Aug. 1960.

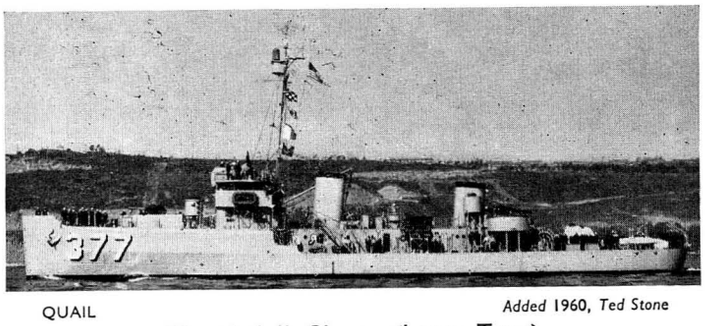
Cancellation of Special Minesweeper

It is officially stated that the conversion of a "Liberty" ship into a Minesweeper, Special, MSS, authorised under the 1960 program, the first ship designed to destroy the pressure mine, was cancelled on 8 Oct. 1961. (See full particulars in the 1961-62 edition, page 373). Of 14,400 tons full load displacement (4,000 tons *light*) with a length of 441 feet, beam of 57 feet and maximum draught of 28 feet, she was to have been propelled by five deck-mounted diesel driven propellors, two forward and two aft (her former machinery, propellers and rudder having been removed and flotation material placed in the holds).

FLEET MINESWEEPERS (Steel Hulled) (MSF)



WAXWING — *Ted Stone*



QUAIL — *Added 1960, Ted Stone*

52 "Auk" Class. (Large Type)

10 *American S.B. Co.*

MSF
116 SPEED (18 Apr. 1942)
384 SPRIG (15 Sep. 1944)
114 STAFF (17 June 1942)
118 STEADY (6 June 1942)
385 TANAGER (9 Dec. 1944)
386 TERCEL (16 Dec. 1944)
387 TOUCAN (15 Sep. 1944)
388 TOWHEE (9 Jan. 1945)
389 WAXWING (10 Mar. 1945)
390 WHEATEAR (21 Apr. 1945)

2 *Associated Shipbuilders*

322 SPEAR (25 Feb. 1943)
324 VIGILANCE (5 Apr. 1943)

4 *Defoe S.B. Co.*

58 BROADBILL (21 May 1942)
59 CHICKADEE (20 July 1942)
60 NUTHATCH (16 Sep. 1942)
61 PHEASANT (24 Oct. 1942)

13 *General Engineering & DD. Co.*

340 ARDENT (22 June 1943)
314 CHAMPION (12 Dec. 1942)
315 CHIEF (5 Jan. 1943)
316 COMPETENT (9 Jan. 1943)
317 DEFENSE (18 Feb. 1943)
318 DEVASTATOR (19 Apr. 1943)
319 GLADIATOR (7 May 1943)
100 HEED (19 June 1942)
101 HERALD (4 July 1942)
320 IMPECCABLE (21 May 1943)
102 MOTIVE (17 Aug. 1942)
103 ORACLE (30 Sep. 1942)
64 STARLING (11 Apr. 1942)

7 *Gulf S.B. Corpn.*

MSF
341 DEXTROUS (17 Jan. 1943)
379 ROSELLE (29 Aug. 1945)
381 SCOTER (26 Sep. 1945)
126 TOKEN (28 Mar. 1942)
127 TUMULT (19 Apr. 1942)
128 VELOCITY (19 Apr. 1942)
131 ZEAL (15 Sep. 1942)

2 *John H. Mathis Co.*

120 SWAY (29 Sep. 1942)
122 SWIFT (5 Dec. 1942)

1 *Norfolk Navy Yard*

55 RAVEN (24 Aug. 1940)

2 *Pennsylvania Shipyard*

104 PILOT (5 July 1942)
105 PIONEER (26 July 1942)

9 *Savannah Machine & Foundry Co.*

372 MURRELET (29 Dec. 1944)
E 373 PEREGRINE (17 Feb. 1945)
374 PIGEON (28 Mar. 1945)
375 POCHARD (11 June 1944)
376 PTARMIGAN (15 July 1944)
377 QUAIL (20 Aug. 1944)
378 REDSTART (18 Oct. 1944)
123 SYMBOL (2 July 1942)
124 THREAT (15 Aug. 1942)

2 *Winslow Marine Ry. & S.B. Co.*

110 REVENGE (ex-*Right*, 7 Nov. 1942)
111 SAGE (21 Nov. 1942)

Displacement:	890 tons *standard* (1,250 tons *full load*)
Dimensions:	215 (*w.l.*), 221¼ (*o.a.*) × 32¼ × 10¾ (*max.*) feet
Guns:	1—3 inch, 50 cal. d.p., 2 or 4—40 mm. AA.
Machinery:	Diesel, with electric drive. 2 shafts B.H.P.: 2,976-3,532=18 kts.
Complement:	105 (war)

General Notes
All except *Peregrine* (experimental) are out of commission, in reserve. *Raven* is of slightly different type (full particulars and photograph in the 1957-58 edition).

Reclassification Notes
Prevail (*AM* 107), *Pursuit* (*AM* 108), *Requisite* (*AM* 109) and *Sheldrake* (*AM* 62) of this class were reclassified as survey ships (AGS) early in 1952 (see later page) and *Surfbird* (MSF 383 of this class was reclassified as a degaussing vessel (ADG) on 18 May 1957 (see later page).
All the above minesweepers, formerly known as Ocean Minesweepers (AM) were reclassified as Minesweepers, Fleet (steel-hulled) MSF in Feb. 1955.

Experimental Notes
Peregrine is now experimental with the designation EMSF 373.

Photograph Notes
Larger photographs of *Raven* and *Sprig* appear in the 1957-58 and earlier editions, of *Revenge* in the 1957-58 to 1959-60 editions, and of *Pilot* in the 1959-60 edition.

Transfer Notes
Sister ships *Strive*, MSF 117, and *Sustain*, MSF 119, were reclassified as coastal minelayers MMC 1 and MMC 2, respectively, in 1958, and transferred to Norway on 1 Oct. 1959 after conversion at Charleston Naval Shipyard. *Seer*, MSF 112, and *Triumph*, MSF 323, were also converted into coastal minelayers (MMC 5 and MMC 3) and transferred to Norway in 1960. *Ruddy*, MSF 380, and *Shoveler*, MSF 382, were transferred to Peru in 1960 for use as patrol vessels.

Recent Disposals
Auk, MSF 57, was stricken on 1 Aug. 1959.

Fleet Minesweepers (Steel Hulled) MSF—*continued*



INCREDIBLE (funnel type) — 1960, *United States Navy, Official*



No funnel type — *United States Navy, Official*

18 "Admirable" Class. (Medium Type)

8 *Associated Shipbuilders*

MSF
304 SCURRY (ex-*Skurry*, 11 Oct. 1943)
302 SIGNET (16 Aug. 1943)
303 SKIRMISH (16 Aug. 1943)
306 SPECTER (15 Feb. 1944)
307 STAUNCH (15 Feb. 1944)
308 STRATEGY (28 Mar. 1944)
309 STRENGTH (28 Mar. 1944)
311 SUPERIOR (11 May 1944)

1 *General Engineering & D.D. Co.*

289 REPORT (8 Aug. 1944)

1 *Gulf S.B. Corpn.*

280 PROWESS (17 Feb. 1944)

1 *Tampa S.B. Co.*

MSF
215 CRUISE (21 Mar. 1943)

4 *William Iron & Steel Corpn.*

165 COUNSEL (17 Feb. 1943)
356 CREDDOCK (22 July 1944)
362 GADWALL (15 July 1943)
364 GRAYLAG (4 Dec. 1943)

3 *Winslow Marine Rly. & S.B. Co.*

240 HAZARD (21 May 1944)
300 SERENE (31 Oct. 1943)
301 SHELTER (14 Nov. 1943)

Displacement:	650 tons *standard* (945 tons *full load*)
Dimensions:	180 (*w.l.*), 184½ (*o.a.*) × 33 × 10 (*max.*) feet
Guns:	1—3 inch d.p., 4—40 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,710=15 kts.
Complement:	104

General Notes
All the above minesweepers, formerly known as Fleet Minesweepers (AM) were reclassified as Minesweepers, Fleet (steel hulled) MFS in Feb. 1955. Appearance varies according to the builders. Some have a funnel. *Cruise*, completed by Charleston Navy Yard, armed with only 2—40 mm. AA. guns. *Salute* was lost in the Second World War. *Pirate* (AM 275) and *Pledge* (AM 277) of this class struck mines and sank off Wonsan, Korean east coast, on 12 Oct. 1950. All out of commission in reserve.

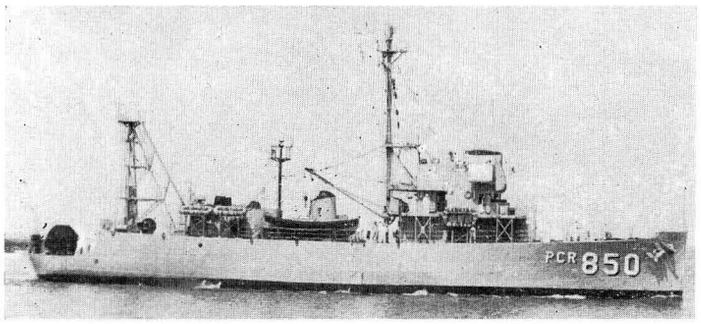
Photograph Notes
A larger photograph of *Jubilant* appears in the 1955-56 to 1959-60 editions.

Transfer Notes
34 of this class were transferred to the Soviet Navy in 1943, and 13 to the Chinese Navy. *Gayety*, MSF 239, and *Sentry*, MSF 299, were transferred to the Vietnamese Navy in June 1962 and Aug. 1962, respectively, under the Military Aid Program.

Recent Disposals
Sister ship *Control*, MSF 164, was stricken from the Navy List on 13 Mar. 1958 and disposed of in 1959. *Clamour*, MSF 160, *Climax*, MSF 161, *Compel*, MSF 162, *Concise*, MSF 163, *Incredible*, MSF 249, *Mainstay*, MSF 261, *Reign*, MSF 288, *Dipper*, MSF 357, and *Harrier*, MSF 366, of this class were stricken on 1 Dec. 1959, and *Change*, MSF 159, *Density*, MSF 218, *Design*, MSF 219, *Garland*, MSF 238, *Opponent*, MSF 269, and *Scrimmage*, MSF 297, were stricken at the end of 1960. *Inaugural*, MSF 242, was stricken in 1961. *Crag*, MSF 214, *Device*, MSF 220, *Diploma*, MSF 221, *Dour*, MSF 223, *Eager*, MSF 224, *Execute*, MSF 232, *Facility*, MSF 233, *Hilarity*, MSF 241, *Instill*, MSF 252, *Intrigue*, MSF 253, *Invade*, MSF 254, *Jubilant*, MSF 255, *Knave*, MSF 256, *Ransom*, MSF 283, *Rebel*, MSF 284, *Recruit*, MSF 285, *Scout*, MSF 296, *Scuffle*, MSF 298, *Success*, MSF 310, and *Harlequin*, MSF 365, were all stricken on 1 May, 1962.

Recent Disposals of Auxiliary Minelayers
Of the five remaining auxiliary minelayers of the ex-Army mineplanter type, MMA 11, *Camanche* (ex-*MP* 21, *Brigadier General Royal T. Frank*), MMA 12, *Canonicus* (ex-*MP* 10, *Major General Erasmus Weaver*), MMA 13, *Miantonomah* (ex-*MP* 14, *Colonel Horace F. Spurgeon*), MMA 14, *Monadnock* (ex-*Major Samuel Ringald*), and MMA 15, *Nausett* (ex-*MP* 7, *Major General Wallace F. Randolph*), were all stricken from the Navy List in 1960.
Sister ship *Puritan*, MMA 16 (ex-*MP* 13, *Colonel Alfred A. Maybach*) was stricken on 1 Nov 1959.

ESCORTS (PCE and PCER)



FAIRVIEW (PCER Type) 1962, *Mr. S. P. Ryan*



WORLAND (PCE Type) 1960, *United States Navy, Official*

14 " 180 " ft. Steel Type

PCE		PCER	
845 WORLAND	13 Dec. 1943	**E 849 SOMERSWORTH**	31 Jan. 1944
856 WHITEHALL	21 Apr. 1944	**E 850 FAIRVIEW**	8 Feb. 1944
877 HAVRE	11 Aug. 1943	**E 851 ROCKVILLE**	22 Feb. 1944
880 ELY	27 Oct. 1943	**E 852 BRATTLEBORO**	1 Mar. 1944
894 FARMINGTON	15 May 1943	**853 AMHERST**	18 Mar. 1944
899 LAMAR	11 Aug. 1943	**E 855 REXBURG**	10 Apr. 1944
902 PORTAGE	28 Aug. 1943	**E 857 MARYSVILLE**	4 May 1944

Displacement: 640 tons *standard* (903 tons *full load*)
Dimensions: 180 (*w.l.*), 184½ (*o.s.*) × 33 × 9½ feet
Guns: 1—3 inch d.p., 6—40 mm. AA. 4 D.C.T. (most PCER type are unarmed)
Machinery: Diesel. 2 shafts. B.H.P.: 2,400 = 16 kts.
Complement: PCE: 99; PCER: 107; EPCER: 100

General Notes

Built by Pulman Standard Mfg. Co., Albina Engine & Machinery Works and Willamette Iron and Steel Corpn. Launch dates above. During war the "PCER" type carried hospital equipment and personnel, with accommodation for 57 patients. *PCE* 873-898 were redesignated *PCEC*, reassigned to amphibious forces, and had additional equipment installed as Control Escorts, but the remaining PCEC were again reclassified as PCE on 27 Oct. 1955. The 25 surviving PCE and PCER were named on 15 Feb. 1956. *Whitehall* was reclassified from PCER to PCE in Mar. 1962. Naval Reserve Training ship.

Experimental Notes

The six vessels now used for experimental purposes, Nos. 849, 850, 851, 852, 855, and 957 were resdesignated as EPCER in 1959.

Photograph Notes

A port broadside view of *Brattleboro*, PCER 852, appears in the 1949-50 to 1958-59 editions, and a starboard broadside view of *Gettysburg*, PCE 904, in the 1952-53 to 1959-60 editions.

A port quarter view of *Rexburg*, EPCER 855 appears in the 1959-60 to 1961-62 editions.

Transfer Notes

Sister ships *Eunice*, PCE 846, and *Pascagoula*, PCE 874, were transferred to the Ecuadorian Navy in 1960. Several PCE were transferred to China, Cuba and Mexico.

PCEC 873, *PCEC* 882, *PCEC* 896 and *PCEC* 898 are on loan to Korea. *PCEC* 873 and *PCEC* 898 were transferred to South Korea in 1956 and *PCEC* 882 and *PCEC* 896 in Feb. 1955.

Crestview, PCE 895, was transferred to the Vietnamese Navy on 29 Nov. 1961. *Batesburg*, PCE 903, *Dania*, PCE 870, *Marfa*, PCE 842, and *Somerset*, PCE 892, were transferred to the South Korean Navy on 9 Dec. 1961.

Recent Disposals

Skowhegan, PCE 843, *Groton*, PCE 900, and *Gettysburg*, PCE 904, were stricken on 1 Feb 1960. *Banning*, PCE 886, was stricken on 1 May 1961.

SUBMARINE CHASERS PCH

1 New Construction Hydrofoil Type

PCH 1 HIGH POINT

Displacement: 110 tons
Dimensions: 115 (*o.a.*) × 31 feet
Guns: 2—50 cal. MG. (twin)
A/S weapons: 4—21 inch torpedo tubes (2 twin), D.C.T.
Machinery: 2 gas turbines. 2 shafts. S.H.P.: 6,000 = 45 to 50 kts. (*max*) Auxiliary diesel propulsion = 12 kts. cruising
Complement: 13 (1 officer, 12 men)

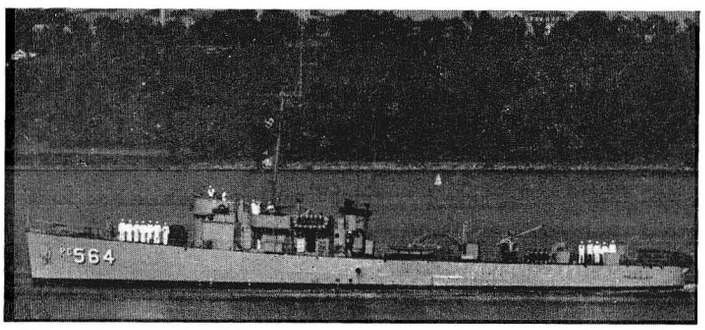
Notes

Hydrofoil submarine chaser, prototype of future anti-submarine warfare patrol craft, for harbour surveillance, harbour approaches, and coastal water out to 200 miles. To be equipped with machine guns, torpedoes, depth charges and sonar gear. Aluminium hull. Twin screws fitted on retractable hydrofoils. Two sonars and magnetic detection equipment will be installed. Provided for under the Fiscal Year 1960 Program. To cost $3,700,000. Designed by W. C. Nickum & Sons, Seattle, Wn. Being built jointly by Boeing Aircraft Corpn., Seattle, Wn., and J. M. Martinac, Tacoma, Washington, at Martinac's Tacoma Yard. Laid down on 27 Feb. 1961. To be completed in Nov. 1962. Named after High Point, North Carolina.

SUBMARINE CHASERS (PC)



WEATHERFORD 1961, *United States Navy, Official*



CHADRON (refitted with taller mast) *United States Navy, Official*

4 " 173 ft. " Steel Type

PC	PC	PC
564 CHADRON (NRT)	**567 RIVERHEAD** (USAF)	**E 618 WEATHERFORD**
	568 ALTUS (USAF)	

Displacement: 280 tons *standard* (450 tons *full load*)
Dimensions: 170 (*w.l.*), 173⅜ (*o.a.*) × 23 × 7½ (*mean*), 10¾ (*max.*) feet
Guns: 1—3 inch d.p., 1—40 mm. AA., 2 to 5—20 mm. AA.
A/S weapons: 4 D.C.T.
Machinery: 2 G.M. 2-stroke diesels. 2 shafts. B.H.P.: 2,560 to 2,380 = 20 kts.
Complement: 80.

General Notes

All launched in 1941-44 (individual dates and builders in 1955-56 edition). Units of this class have been transferred to various other navies. 17 of these vessels formerly rated as Submarine Chasers (Control) (PCC) were reclassified as PC on 27 Oct. 1955. *Weatherford* is experimental and designated EPC.

Patrol Vessel, Submarine Chaser PC 1590 (ex-*Constant*, ex-AM 86) steel type ex-minesweeper was stricken from the list of U.S. naval vessels on 17 Sep. 1954. All PCs were named on 15 Feb. 1956.

Chadron is assigned to Naval Reserve training at Pearl Harbour. *Altus* and *Riverhead* are on loan to the United States Air Force.

Transfer Notes

PC 1086, 1130, 1139, 1143, 1144, 1146, 1167, 1171 were transferred to France under MDAP 1951 and sent to Indo-China. (The vessels sent to Indo-China were later returned, and PC 1086 and PC 1171 were transferred to Cambodia, the others being transferred to Viet Nam.) PC 485 and PC 600 were loaned to Republic of Korea Navy. PC 495, 570, 575, 609, 616, 1185, 1218 and 1253 transferred to Thailand Navy. PC 786, 1078, 1168, 1182, 1208 1232, 1233, 1254 and 1262 were loaned to Nationalist China in 1954. PC 622 was transferred to Greece under MDAP in 1954.

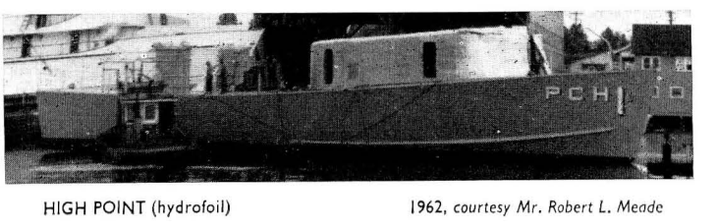
Placerville, PC 1087, *Hanford*, PC 1142, *Susanville*, PC 1149, *Escondido*, PC 1169 and *Vandalia* PC 1175, were transferred to Taiwan China at Seattle, Washington, in July 1957.

Pierre, PC1141, was transferred to Indonesia at Pearl Harbour on 25 Oct. 1958. *Milledgeville*, PC 1263, was transferred to Taiwan China on 1 July 1959. *Malvern*, PC 580, and *Manville*, PC 581, were transferred to Indonesia in Mar. 1960. *Anacortes*, PC 1569, was transferred to Viet Nam in 1960. *Grosse Point*, PC 1546, and *Winnemucca*, PC 1145, were transferred to Korea in 1960.

Cooperstown, PC 484, *Dalhart*, PC 619, *Edenton*, PC 1077, *Gilmer*, PC 565, *Honesdale*, PC 566, *Larchmont*, PC 487, *Lenoir* PC 582, *Minden* PC 1176, *Paragould*, PC 465, *Rolla*, PC 483, *Tarrytown*, PC 1252, and *Tooele*, PC 572, were sold to Venezuela in 1961.

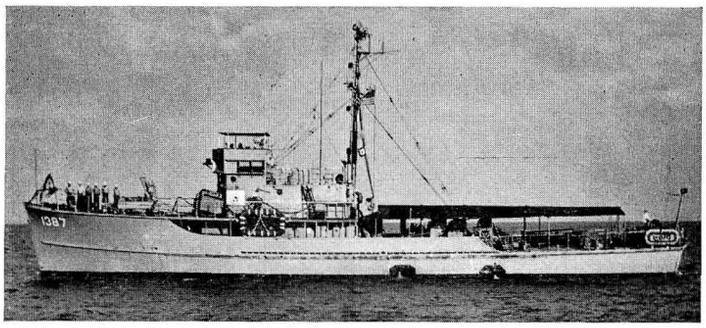
Recent Disposals

Andrews, PC 606, *Beeville*, PC 617, *Bethany*, PC 620, *Bluffton*, PC 461, *Canandaigua*, PC 1246, *Corinth*, PC 1547, *Fredonia*, PC 1174, *Greencastle*, PC 1119, *Kerrville*, PC 597, *Malone*, PC 553, *Munising*, PC 1228, *Oberlin*, PC 560, *Waverly*, PC 1225, and *Wauseon*, PC 1229 were stricken from the Navy List in 1957. PC 586 *Patchogue*, PC 588, *Houghton*, PC 589, *Metropolis*, PC 592, *Towamda*, PC 776, *Pikeville*, PC 777, *Waynesburg*, PC 778, *Gallipolis*, PC 779, *Mechanicsburg*, PC 780, *Maynard*, PC 781, *Metuchen*, PC 782, *Glenolden*, PC 785, *Frostburg*, PC 808, *Ripley*, PC 817, *Welch*, PC 822, *Asheboro*, PC 1120, *Carlinville*, PC 1125, *Cordele*, PC 1135, *Canastota*, PC 1136, *Galena*, PC 1137, *Worthington*, PC 1138, *Lapeer*, PC 1181, *Wildwood*, PC 1186, *Ipswich*, PC 1191, *Bel Air*, PC 1193, *Ridgway*, PC 1196, *Mayfield*, PC 1198, *Westerly*, PC 1201, *Kittery*, PC 1209, *Medina*, PC 1212, *Laurinburg*, PC 1213, *Loudon*, PC 1216, *Elkins*, PC 1230, *Grinnell*, PC 1237, *Abingdon*, PC 1240, *Cullpeper*, PC 1242, *Port Clinton*, were all stricken from the " List of Naval Vessels " on 1 Apr. 1959. *Jasper*, PC 486, was stricken on 1 May 1959, and *Anoka*, PC 571, *Kewaunee*, PC 1178, and *Durango*, PC 1260, were stricken on 1 Nov. 1959, *Carmis*, PC 466, *Antigo*, PC 470, *Petoskey*, PC 569, *Wapakoneta*, PC 579, *Arcata*, PC 601, *Alturas*, PC 602, *Solvay*, PC 603, *Ludington*, PC 1079, *Cadiz*, PC 1081, *Glenwood*, PC 1140, *Kelso*, PC 1170, *Olney*, PC 1172, *Andulasia*, PC 1173, *Guymon*, PC 1177, *Morris*, PC 1179, *Woodstock* PC 1180, *Tipton*, PC 1231, *Martinez*, PC 1244, *Ukiah*, PC 1251, were stricken in 1960.



HIGH POINT (hydrofoil) 1962, *courtesy Mr. Robert L. Meade*

SUBMARINE CHASERS (PCS)



BEAUFORT *United States Navy, Official*

4 " 136 " ft. Wooden Type

PCS	PCS	PCS
1385 HOLLIDAYSBURG	1401 McMINNVILLE	1431 GRAFTON
1387 BEAUFORT		

Displacement:	251 tons *standard* (338 tons *full load*)
Dimensions:	136×24½×8½ (*max.*) feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 2—20 mm. AA.
A/S weapons:	D.C.T.
Machinery:	2 General Motors diesels. B.H.P.: 1,000=14 kts.
Complement:	60

General Notes

Built in 1942-44. Five vessels of this class were reclassified as minesweepers with names and designations *Sanderling*, *AMS* 35, *Swallow*, *AMS* 36, *Swan*, *AMS* 37, *Verdin*, *AMS* 38, *Waxbill*, *AMS* 39, but in Mar. and Feb. 1955 *Sanderling*, *AMS* 35, and *Waxbill*, *AMS* 39, were reclassified as minesweepers *AMCU* 49 and *AMCU* 50, respectively, and again redesignated when minehunters were reclassified *MHC*, *Swallow*, *Swan* and *Verdin* were redesignated *MSC(O)* on 7 Feb. 1955. Former PCS 1465 was named *Minah* MHC (ex-AMCU) 14, PCS 1426 and PCS 1448 were loaned to Republic of Korea Navy on 9 June 1952, and PCS 1445 and PCS 1446 on 26 May 1952. All PCS were named on 15 Feb. 1956.

Recent Disposals

Attica, PCS 1383, and *Coquille*, PCS 1400, were scrapped in 1957. *Conneaut*, PCS 1444 *Deming*, PCS 1392, *Eufaula*, PCS 1384, *Provincetown*, PCS 1378, *Rushville*, PCS 1380, and *Winder*, PCS 1378, were stricken from the Navy List in 1957. *Hampton*, PCS 1386, was stricken on 1 July 1959, *Elsmere*, PCS 1413, was disposed of in 1961. *Prescott*, PCS 1423, was stricken on 1 Mar. 1962.

COASTAL MINEHUNTERS (MHC)



BITTERN 1960, *United States Navy, Official*

1 " Bittern " Class

MHC
43 BITTERN

Displacement:	300 tons *standard* (360 tons *full load*)
Dimensions:	138 (*pp.*), 144½ (*o.a.*)×28×8 feet
Guns:	1—40 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,200=14 kts.
Complement:	44 (4 officers, 40 men)

General Notes

One prototype Mine Hunter (MHC) of wooden construction was built by the Consolidated Shipbuilding Corporation, New York City, at a cost of $1,782,107, under the 1954 Fiscal Year program. Designed to locate mines and other underwater obstacles, rather than to sweep them. To accomplish this she was equipped with various types of electronic instruments in place of minesweeping gear found in coastal minesweepers. To be mass produced in the event of mobilisation. Three more were to have been built under the 1955 Naval Appropriations, but were not started. Built of non-magnetic materials, with bronze, aluminium and stainless steel fittings. *Bittern* was laid down on 18 Aug. 1955, launched on 4 Mar. 1957 and commissioned on 26 Aug. 1957.

Recent Disposals

All 29 of the converted coastal minehunters of the underwater locator type (8 former coastal minesweepers of the YMS class and 21 former large infantry landing ships of the LSIL class) were stricken on 1 Nov. 1959 or 1 Jan. 1960. See names, former numbers, and ufll particulars on page 433 of the 1959-60 edition.

COASTAL MINESWEEPERS (Non-Magnetic)



ALBATROSS 1962, *United States Navy, Official*

22 " Bluebird " Class (MSC)

MSC	MSC	MSC
121 BLUEBIRD	195 LIMPKIN	204 THRUSH
122 CORMORANT	196 MEADOW LARK	205 VIREO
190 FALCON	197 PARROT	206 WARBLER
191 FRIGATE BIRD	198 PEACOCK	207 WHIPPOORWILL
192 HUMMING BIRD	199 PHOEBE	208 WIDGEON
193 JACANA	E 201 SHRIKE	209 WOODPECKER
194 KING BIRD	203 THRASHER	289 ALBATROSS
		290 GANNET

Displacement:	320 tons *light* (370 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*)×28×8½ feet
Guns:	2—20 mm.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 880=13 kts. (MSC 200-209). Packard engines. 2 shafts. B.H.P.: 1,200=14 kts. (MSC 121, 122, 190-199)
Oil fuel:	25 tons
Radius:	2,500 miles at 10 kts.
Complement:	39

General Notes

Costal motor minesweepers of wooden construction. New type of vessels constructed throughout of materials with the lowest possible magnetic attraction to attain the greatest possible safety factor when sweeping for magnetic mines. *Bluebird* and *Cormorant* (commissioned 14 Aug. 1953) built by Mare Island Naval Shipyard, 310 tons *light*, Packard engines, B.H.P.: 1,200. Only named vessels AMS 121, 122, 190-209 were commissioned into the U.S. Navy. Remainder, 60-120, 123-154, 167-171, 218-221, 255-288 were built for NATO or foreign countries under MDAP. E *Shrike* is experimental.

Transfer Notes

18 to Italy: AMS 72-76, 79-82, 88-90, 113-137, 280. 18 to Belgium: AMS 63-65, 77, 78, 101, 103, 104, 131, 151-154, 169-171, 259, 260. 8 to Denmark: AMS 127, 128, 129, MSC 221, 256, 257, 263, 264. 30 to France: AMS 66-71, 83-87, 93, 94, 96-99, 113-120, 124-126, 141-142 14 to Netherlands: AMS 100, 105-112, 148-150, 167, 168. 2 to Norway: AMS 102, 132. 8 to Portugal: AMS 60 (ex-U.S.S. *Adjutant*), 61, 62, 91, 92, 145-147. 12 to Spain: AMS 130, 139, 143, 220, 265, 266, MSC 200 (ex-U.S.S. *Redwing*), MSC 202, (ex-U.S.S. *Spoonbill*), MSC269, 279, 287, 288. 4 to Japan: AMS 95, 144, 255, 258. 8 to Pakistan: AMS 138, 261, 262, 267, 273, 274, 293, 294. 6 to Turkey: 268, 270, 271, 272, 304, 305. 4 to Iran: MSC 275, 276, 291, 292. 5 to Taiwan China: AMS 123, 140, MSC 277, 278, 300. 3 to Vietnam: MSC 281, 282, 283. 6 to Korea: MSC 284, 285, 286, 295, 296, 302. 2 to Philippines: MSC 218, 219. 3 to Greece: MSC 298, 299, 302. 3 to Thailand: MSC 297, 301, 303.

Cancellation Notes

AMS 155 to 166 were reserved for German built vessels, but order and numbers were cancelled.

Reclassification Notes

All the vessels formerly known as Auxiliary Motor Minesweepers (AMS) were reclassified as Minesweepers, Coastal (MSC), in Feb. 1955.

Production Notes

More than 160 MSC were built or are building in the U.S.A. for the US. Navy and MDAP.

New Construction Notes

It was announced on 22 June 1956 that Bellingham Shipyards Company, Washington, had been awarded a contract to construct five new vessels, MSC 268-272. All these, and sixteen more, MSC 273-288, ordered on 25 Apr. 1957, were built for foreign countries under the Military Assistance Program.

Two new vessels of this class were built by Tacoma Boatbuilding Co., Tacoma, Washington under the fiscal Year 1958 Program:—*Albatross*, laid down on 26 Feb. 1959, launched on 26 Mar. 1960, and completed on 24 Apr. 1961, and *Gannet*, laid down on 1 May 1959, launched on 2 June 1960, and completed on 14 July, 1961. MSC 291 was launched on 3 Mar. 1961 at Tacoma for MDAP. Two new coastal minesweepers have been ordered from Petersen Builders Inc., Sturgeon Bay, Wisc., with 4 diesels driving two fixed-pitch propellers, and gas turbine generators for power minesweeping (MSC 292 and 293, for MAP). Petersen Builders were awarded a contract in June 1961 for four more MSC 294, 295, 296 and 297 to be transferred to a foreign government under MAP upon completion. 145×27 feet, 362 tons full load. 4 MSC to Tacoma Boatbuilding Co., MSC 298-301 (Nov. 1961).

Photograph Notes

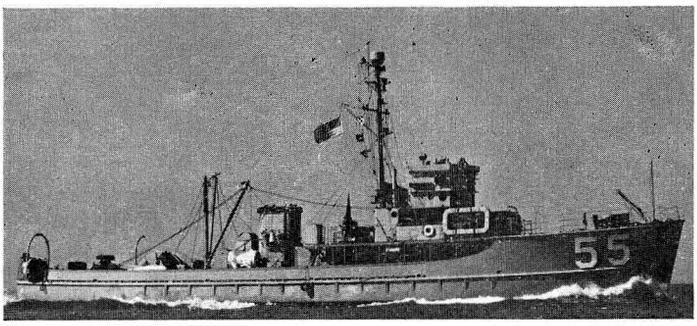
A larger photograph of *Cormorant* appears in the 1958-59 and 1959-60 editions, a larger port quarter oblique aerial view of *Jacana* in the 1957-58 edition, and a larger port broadside view of *Bluebird* in the 1955-56 and 1956-57 editions. A port bow oblique aerial view of *Cormorant* appears in the 1958-59 to 1961-62 editions.

Recent Disposals and Reclassification of Motor Torpedo Boats

The four experimental motor torpedo boats of differing designs, PT 809, PT 810, PT 811 and PT 812, were stricken on 1 Nov. 1959 and reclassified as boats. (They still exist, but as boats and not as service craft, naval vessels as before).

The wartime motor torpedo boats PT 616, PT 619 and PT 620, loaned to Korea in 1952, were also deleted from the list on 1 Nov. 1959.

COASTAL MINESWEEPERS (MSCO)



SEAGULL — 1960, *United States Navy, Official*

10 "Albatross" Class

MSCO
47 FULMAR (ex-*YMS* 193)
13 GRACKLE (ex-*YMS* 312)
15 GROUSE (ex-*YMS* 321)
24 LINNET (ex-*YMS* 395)

MSCO
49 LORIKEET (ex-*YMS* 271)
33 PLOVER (ex-*YMS* 442)
51 REEDBIRD (ex-*YMS* 291)

MSCO
54 RUFF (ex-*YMS* 327)
58 SISKIN (ex-*YMS* 425)
56 TURKEY (ex*YMS* 444)

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136×24½×8 (*max.*) feet
Guns:	1—40 mm. AA.
A/S weapons:	2 D.C.T.
Machinery:	2 G.M. diesels. 2 shafts. B.H.P.: 1,000=15 kts.
Oil fuel:	16 tons
Radius:	5,500 miles at economical speed
Complement:	34 (4 reserve officers, 9 regular men, 21 reserve men)

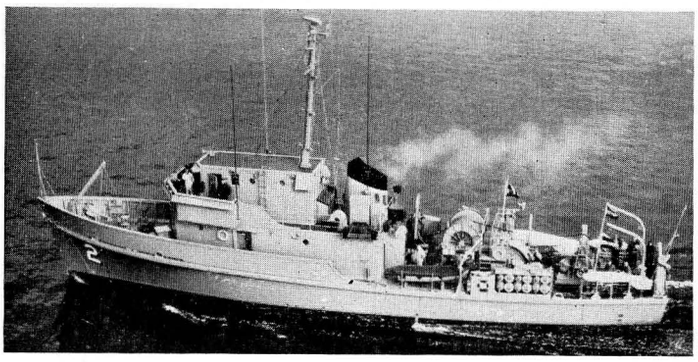
General Notes
Coastal motor minesweepers of wooden construction. All launched in 1942-43. Formerly known as Auxiliary Motor Minesweepers (AMS). Reclassified as Minesweepers. Coastal (old), MSC(O), in Feb. 1955. *Magpie* (AMS 25) and *Partridge* (AMS 31) of this class struck floating mines and sank off the Korean east coast on 1 Oct. 1950 and 2 Feb. 1951, respectively. *Bobo'i k, Bunting, Gull, Merganser, Redhead, Sanderling* and *Waxbill* were converted into coastal minehunters in 1945-55. The eleven surviving boats of this formerly very numerous class were assigned to the mine warfare selected reserve program in 1960 with reserve crews.

Appearance Notes
Only one-funnelled boats of this class now remain on the list, the two-funnelled boats and the no-funnel boats having been stricken, see below.

Transfer Notes
Chatterer, Condor, Firecrest, Heron, Osprey, Pelican and *Swallow* were transferred to Japan in 1955. Many units of this type will be found also in other navies. *Curlew, Kite* and *Mockingbird* were loaned to Korea on 6 Jan. 1956. Sister ships *Hummer*, MSCO 20, and *Lark*, MSCO 23, were transferred to Japan in 1959. *Cardinal*, MSCO 4, *Jackdaw*, MSCO 21, and *Egret*, MSCO 46, were transferred to Brazil at Charleston, S.C., on 15 Aug. 1960 under MDAP.

Recent Disposals
Sister ships *Albatross*, MSCO 1, and *Hawk*, MSCO 17, were stricken from the Navy List in 1958. *Redpoll*, MSCO 57, was stricken on 1 July 1959. *Cardinal*, MSCO 4, *Courser*, MSCO 6, *Crow*, MSCO 7, *Flamingo*, MSCO 11, *Goldfinch*, MSCO 12, *Grosbeak*, MSCO 14, *Hornbill*, MSCO 19, *Ostrich*, MSCO 29, *Swan*, MSCO 37, *Verdin*, MSCO 38, *Barbet*, MSCO 41, *Brambling*, MSCO 42, *Brant*, MSCO 43, *Courlan*, MSCO 44, *Crossbill*, MSCO 45, *Egret*, MSCO 46, *Lapwing*, MSCO 48, *Nightingale*, MSCO 50, *Rhea*. MSCO 52, and *Seagull*, MSCO 55, were stricken on 1 Nov. 1959. *Flicker*, MSCO 9, and *Jackdaw*, MSCO 21, were stricken on 1 Jan. 1960. *Robin*, MSCO 53, was stricken in Aug. 1961.

INSHORE MINESWEEPERS (MSI)



CAPE — 1960, *courtesy Mr. W. H. Davis*

2 "Cove" Class

MSI 1 COVE — **MSI 2 CAPE**

Displacement:	120 tons *light* (249 tons *full load*)
Dimensions:	111¾×23×5½ (*10 max.*) feet
Machinery:	2 G.M. diesels. 1 shaft. B.H.P.: 650=12 kts.
Complement:	21 (3 officers, 18 men)

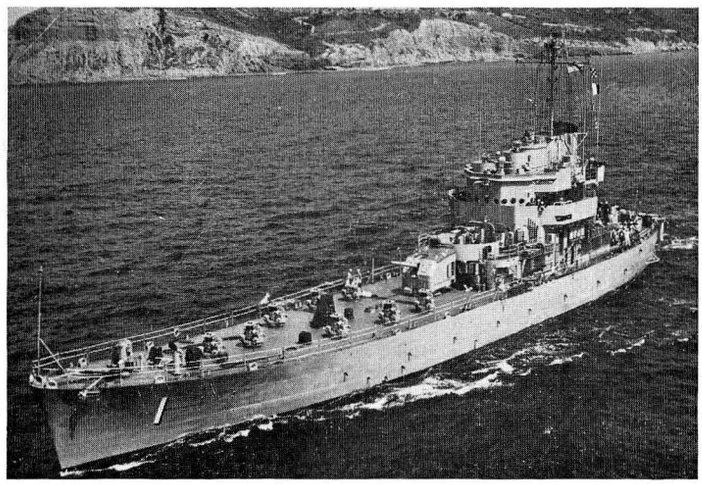
General Notes
Provided under the 1956 Naval Appropriations. Prototype to replace MSCs on inshore minesweeping duties. Similar in mission and construction to Minesweeping Boats (MSB), see later page, but considerably larger. Both built at the Bellingham Shipyards Co., Bellingham, Washington. Cost $750,000 plus $350,000 for equipment. In Pacific Fleet.

Building Notes
Laid down on 1 Feb. 1957 and 1 May 1957, respectively, launched on 8 Feb. 1958 and 5 Apr. 1958 and placed in service on 20 Nov. 1958 and 27 Feb. 1959, respectively.

MAP Program
MSI 3 to MSI 101 were built under the off-shore procurement program for MDAP. In Mar. 1962 Tacoma Boatbuilding Co. were awarded a contract for 2 MSI, 111×23 feet, 235 tons full load, for MAP. These, MSI 13 and MSI 14, will on completion be transferred to Iran under MAP.

Photograph Notes
A larger port broadside view of *Cove* appears in the 1959-60 edition.

INSHORE FIRE SUPPORT SHIP (IFS)



CARRONADE — 1960, *United States Navy, Official*

•Amphibious Cruiser Type

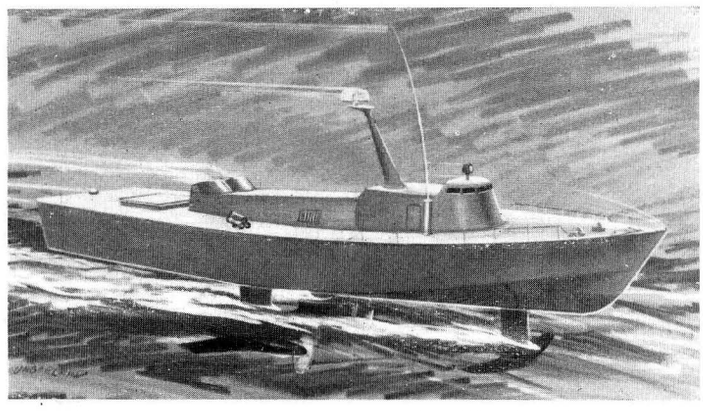
IFS 1 CARRONADE

Displacement:	1,040 tons *light* (1,500 tons *full load*)
Dimensions:	245×39×10 feet
Guns:	1—5 inch; 8 rocket throwers
Machinery:	Fairbanks-Morse diesels. 2 shafts, geared drive, twin screws with variable pitch. B.H.P.: 3,100=15 kts.
Complement:	162

General Notes
A new type of naval vessel popularly known as the "bobtailed cruiser," into which the latest improvements in shipboard habitability have been built. Designed to support troops in amphibious landings. Main armament comprises rapid fire rocket launchers. Built by Puget Sound Bridge & Dredging Co. Keel laid on 19 Nov. 1952. Launched on 26 May 1953. Commissioned on 25 May 1955. Decommissioned in 1960.

Photograph Notes
A larger starboard quarter oblique aerial view of *Carronade* appears in the 1956-57 to 1959-60 editions.

HYDROFOIL RESEARCH SHIP (AGEH)



AGEH 1 — 1962, *United States Navy, Official*

1 Experimental Type

AGEH 1

Displacement:	250 to 300 tons
Dimensions:	Length: 155 to 200 feet
Machinery:	Speed: 50 to 80 kts. (see *Notes*)

Notes
Miscellaneous Auxiliary, Experimental Hydrofoil, requested in the Fiscal Year 1962 Program. Initial maximum speed of about 50 knots, with later modifications expected to raise the speed to 80 knots. Power plant and transmission will be designed to permit future investigation of various types of foils. Awarded to Grumman Aircraft Engineering Corporation for $10,309,174.

MOTOR GUNBOATS (PGM)

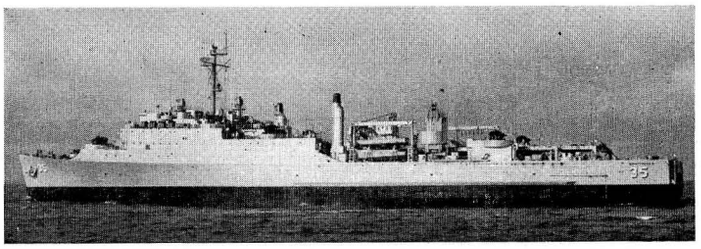
2 New Construction

Displacement:	100 tons *standard* (143 tons *full load*)
Guns:	1—3 inch, 51 cal. radar controlled 10—20 mm. AA. in 5 twin mountings

Notes
These two boats are being built as prototypes under the Fiscal Year 1963 construction program. The new design emphasises cruising endurance, seaworthiness and payload capability to provide a relatively high speed craft with maximum simplicity and ease of maintenance compatible with these features. The armament will provide a limited air defence capability.

PG 69 is to be built in the United States for transfer to Liberia.

DOCK LANDING SHIPS (LSD)



MONTICELLO 1960, *United States Navy, Official*

8 "Thomaston" Class

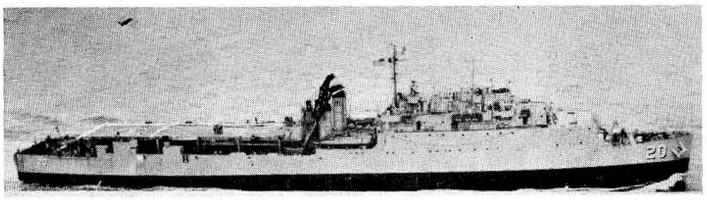
LSD
28 THOMASTON (9 Feb. 1954)
29 PLYMOUTH ROCK (7 May 1954)
30 FORT SNELLING (16 July 1954)
31 POINT DEFIANCE (28 Sep. 1954)
LSD
32 SPIEGEL GROVE (10 Nov. 1955)
33 ALAMO (20 Jan. 1956)
34 HERMITAGE (12 June 1956)
35 MONTICELLO (10 Aug. 1956)

Displacement:	6,880 tons *light* (11,270 tons *full load*) *Alamo, Hermitage, Monticello* and *Spiegel Grove*: 12,150 tons *full load*
Dimensions:	510 (*o.a.*) × 84 × 19 (*max.*) feet
Guns:	12—3 inch, 50 cal. (See *Gunnery Notes*)
Machinery:	Steam turbines. 2 shafts. S.H.P.: 23,000=24 kts.
Boilers:	2
Complement:	300

General Notes
Same general design as earlier types, but larger and faster. Built by Ingall's Shipbuilding Corporation, Pascagoula, Mississippi. Fitted with helicopter landing platforms, and two 50 ton cranes. 21 LCM (6) can be carried. Launch dates above.

Gunnery Notes
The 6—20 mm. AA. guns were never installed, and two twin 3 inch, 50 cal. mountings were removed in 1962.

Photograph Notes
A larger starboard bow oblique aerial view of *Thomaston* appears in the 1955-56 to 1959-60 editions.



DONNER (with helicopter flight deck aft) 1961, *United States Navy*

13 "Cabildo" Class

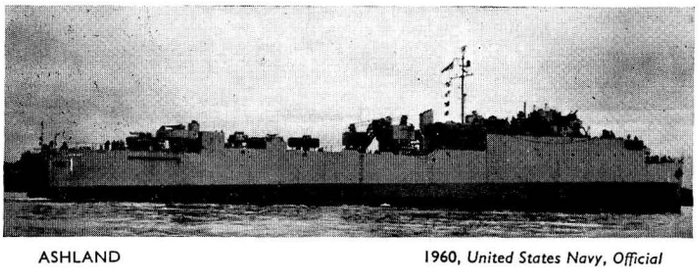
LSD
16 CABILDO (28 Dec. 1944)
13 CASA GRANDE (ex-*Spear*, ex-*Portway*, 11 Apr. 1944)
17 CATAMOUNT (27 Jan. 1945)
18 COLONIAL (28 Feb. 1945)
19 COMSTOCK (28 Apr. 1945)
20 DONNER (6 Apr. 1945)
21 FORT MANDAN (1945)
LSD
22 FORT MARION (22 May 1945)
14 RUSHMORE (ex-*Sword*, ex-*Swashway*, 10 May 1944)
25 SAN MARCOS (10 Jan. 1945)
15 SHADWELL (ex-*Tomahawk*, ex-*Waterway*, 24 May 1944)
26 TORTUGA (21 Jan. 1945)
27 WHETSTONE (18 July 1945)

Displacement:	4,790 tons *standard* (9,375 tons *full load*)
Dimensions:	457¾ (*o.a.*) × 72½ × 18 (*max.*) feet
Guns:	12—40 mm. AA.
Machinery:	Geared turbines. 2 shafts S.H.P.: 7,000=15·4 kts.
Boilers:	2 two-drum single pass
Complement:	265 (15 officers, 250 men)

General Notes
Built by Newport News, Gulf S.B. Corpn. and other yards. Similar to "Ashland" class. Can carry 3 LCUs or 18 LCMs. In this class the 5-inch gun and all 20 mm. guns have been removed. All ships are fitted with helicopter platforms. (*Fort Snelling*, LSD 23, is now the cargo ship *Taurus*, T-AK 273, see later page.)

Conversion Notes
Catamount, LSD 17, *Colonial*, LSD 18, *Donner*, LSD 20, *Fort Mandan*, LSD 21, and *Fort Marion*, LSD 22, were converted under the FRAM Mark II Program in 1960-62. *Donner*, LSD 20, and *Shadwell*, LSD 15, are fitted as amphibious assault carriers for marine helicopter operations.

Photograph Notes
A larger starboard quarter view of *Rushmore* appears in the 1952-53 to 1959-60 editions, and photographs of *Catamount* and *Fort Mandan* appear in the 1947-48 to 1951-52 editions.



ASHLAND 1960, *United States Navy, Official*

7 "Ashland" Class

LSD
1 ASHLAND (21 Dec. 1942)
2 BELLE GROVE (17 Feb. 1942)
3 CARTER HALL (4 Mar. 1943)
4 EPPING FOREST (2 Apr. 1943)
LSD
5 GUNSTON HALL (1 May 1943)
6 LINDENWALD (11 June 1943)
7 OAK HILL (25 June 1943)

Displacemen :	4,790 tons *standard* (8,700 tons *limit*) *Gunston Hall* and *Lindenwald*, 5,380 tons *standard*, 9,200 tons *full load*
Dimensions:	454 (*w.l.*), 457¾ (*o.a.*) × 72 × 18 feet
Guns:	12—40 mm. AA.
Machinery:	2 Skinner Unaflow engines. 2 shafts. I.H.P.: 7,400=15·6 kts.
Boilers:	2, of 2-drum type
Complement:	15 officers, 250 men (total accommodation 326)

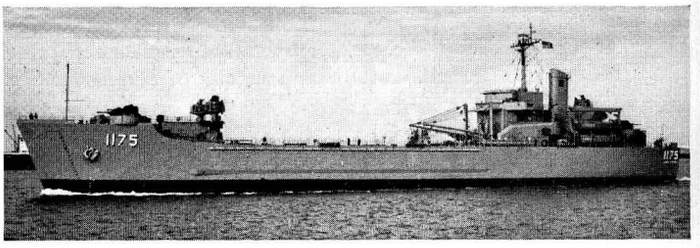
General Notes
All built by Moore Dry Dock Co. Designed to serve as parent ships to landing craft and coastal craft. *Gunston Hall* and *Lindenwald* were adapted to Arctic service in 1949. The 5-inch gun and all 20 mm. guns have been removed. All carry 18 flat nosed LCMs (Landing Craft Medium) or 3 LCUs in their well-decks running three-quarters of their length. Length of well 392 feet, length of well in open 252 feet, width of well 44 feet. In each LCM a smaller LCVP (Landing Craft, Vehicle-Personnel) can be carried. All these ships are fitted with a helicopter landing platform over the well-deck. Similar type to "Cabildo" class, see above, but differently propelled. *Lindenwald* was transferred to MSTS in Dec. 1956, redesignated USNS and guns removed, but was recommissioned in the Atlantic Fleet on 1 July 1960 and rearmed. *Epping Forest* is employed as a minecraft tender in the Far East.

Conversion Notes
Oak Hill, LSD 7, was converted under the FRAM Mark II Program in 1960 and *Belle Grove*, LSD 2, in 1961. *Ashland*, LSD 1, was to have been converted into a seaplane tender. AV, for P6M jet Seamaster seaplanes, under the Fiscal Year 1959 program and the contract was awarded to the Philadelphia Naval Shipyard in Mar. 1959; but work was stopped in Oct. 1959 owing to the cancellation of the Seamaster Program, and she recommissioned in 1961

Transfer Notes
White Marsh, LSD 8, was transferred to Taiwan China on 17 Nov. 1960 under the Mutual Defense Assistance Program.

Photograph Notes
A larger port bow view of *White Marsh* appears in the 1952-53 to 1959-60 editions.

TANK LANDING SHIPS (LST)



YORK COUNTY 1960, *United States Navy, Official*

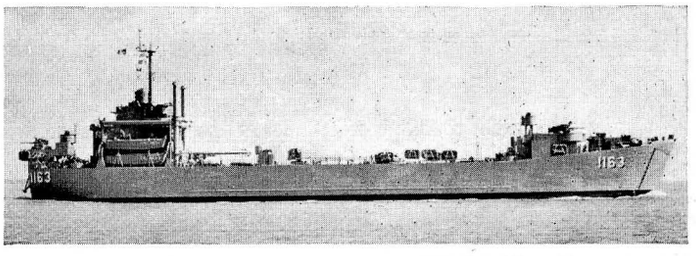
7 "Suffolk County" Class

LST
1171 DE SOTO COUNTY (28 Feb. 1957)
1173 SUFFOLK COUNTY (5 Sep. 1956)
1174 GRANT COUNTY (12 Oct. 1956)
1175 YORK COUNTY (5 Mar. 1957)
LST
1176 GRAHAM COUNTY (19 Sep. 1957)
1177 LORAIN COUNTY (22 June 1957)
1178 WOOD COUNTY (14 Dec. 1957)

Displacement:	4,164 tons *light* (8,000 tons *full load*)
Dimensions:	442 (*o.a.*) × 62 × 18 feet
Guns:	6—3 inch, 50 cal. (in twin mounts)
Machinery:	Diesel (*Graham County* four Nordberg, two per shaft, variable pitch propellers; other six have six engines, three per shaft.) H.P.: 14,400=17 kts.
Complement:	124 (8 officers, 116 men)

General Notes
Under the 1954 Fiscal Year New Construction Program a $14,000,000 contract was awarded to Boston Naval Shipyard for a prototype LST (1173). Cost included plans and development work. Greater speed, size and troop-carrying capacity than conventional LSTs. Contracts for 6 more LSTs, 1177, 1178, to American Shipbuilding Co., Lorrain, Ohio, 1171, 1174 to Avondale Marine Ways, New Orleans, Louisiana, 1175, 1176 to Newport News Shipbuilding & Dry Dock Co., Virginia, Contract for LST 1172 not awarded. *Suffolk County* commissioned on 15 Aug. 1957, *De Soto County* on 10 June 1958, *Graham County* on 14 Apr. 1958, *Lorain County* on 30 Aug. 1958, *Wood County* on 5 Aug. 1959. Can carry 700 troops and 20 amphibious vehicles. Ships are air-conditioned. Launch dates above.

Photograph Notes
A larger port broadside aerial view of *Suffolk County* appears in the 1959-60 editions.



WALDO COUNTY 1960, *United States Navy, Official*

15 "LST 1156-1170" Series

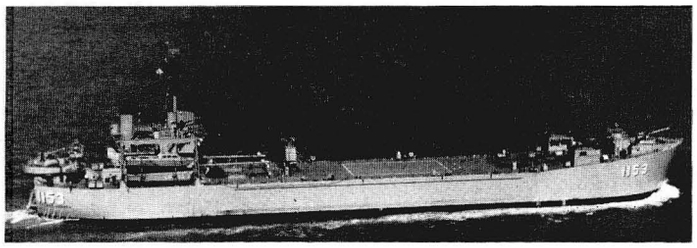
LST
1156 TERREBONNE PARISH
1157 TERRELL COUNTY
1158 TIOGA COUNTY
1159 TOM GREEN COUNTY
1160 TRAVERSE COUNTY
1161 VERNON COUNTY
1162 WAHKIAKUM COUNTY
1163 WALDO COUNTY
LST
1164 WALWORTH COUNTY
1165 WASHOE COUNTY
1166 WASHTENAW COUNTY
1167 WESTCHESTER COUNTY
1168 WEXFORD COUNTY
1169 WHITFIELD COUNTY
1170 WINDHAM COUNTY

Displacement:	2,590 tons *light* (5,800 tons *full load* (*max.*) for trials)
Dimensions:	384 (*o.a.*) × 55 × 12 1/16 (*mean* draught under *max.* load), 17 (*max.*) feet
Guns:	6—3 inch, 50 cal. (twin mountings)
Machinery:	Four General Motors diesel engines 2 shafts. Controlled pitch propellers B.H.P.: 6,000=15 kts.
Complement:	116

General Notes
Design is modification of that of two experimental ships constructed during the Second World War. LST 1156 was launched on 9 Aug. 1952, 1158 on 11 Apr. 1953, 1163 on 17 Mar. 1953, 1156-1160 were built by Bath Iron Works, 1166-1170 by Christy Corporation, and 1161-1165 by Ingalls' Shipbuilding Corporation.

Photograph Notes
A larger port quarter surface view of *Tioga County* appears in the 1954-55 to 1959-60 editions.

Tank Landing Ships (LST)—*continued*



TALBOT COUNTY (steam type) 1960, *United States Navy, Official*

2 Steam Type

LST 1153 TALBOT COUNTY **AVB 2 TALLAHATCHIE COUNTY** (ex-*LST* 1154)

Displacement:	2,324 tons (6,000 tons *full load*)
Dimensions:	368 (*w.l.*), 382 (*o.a.*) × 54 × 14½ (17 *max.* feet)
Guns:	2—5 inch, 38 cal., 4—40 mm. AA.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 6,000 = 14 kts.
Complement:	82

General Notes

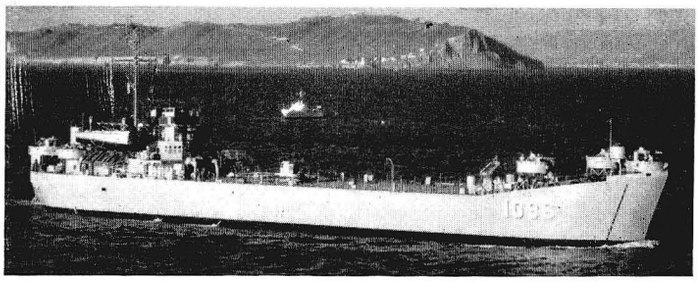
Built by Boston Navy Yard. *Talbot County* was launched on 24 Apr. 1947 and completed on 3 Sep. 1947; *Tallahatchie County* was launched on 19 July 1946 and completed on 9 June 1949. They are the only steam powered LSTs. This type can carry 4 small landing craft and has increased troop accommodation, greater tank, vehicle and cargo capacity and improved arrangements for discharge, compared with the " LST 1-1152 " class.

Conversion Notes

Tallahatchie County was converted to an advance aviation base ship, AVB, at the Naval Shipyard, Charleston, S.C., under the Fiscal Year 1960 conversion program, and recommissioned on 20 Jan. 1962. Conversion completed on 13 Mar. 1962. Fitted with new all aluminium superstructure, maintenance shops, communications, weather forecasting, briefing rooms and a portable tower for aircraft control. Accommodation for 270 man aircraft squadron in addition to crew of 15 officers and about 200 men. To be homeported in Naples, Italy.

Photograph Notes

A larger starboard broadside surface view of *Talbot County* appears in the 1959-60 and earlier editions.



ST. CLAIR COUNTY 1960, *United States Navy, Official*

54 LST 511-1152 Series

LST	
515 CADDO PARISH	854 KEMPER COUNTY
519 CALHOUN COUNTY	901 LITCHFIELD COUNTY
525 CAROLINE COUNTY	902 LUZERNE COUNTY
529 CAYUGA COUNTY	905 MADERA COUNTY
532 CHASE COUNTY	912 MAHNOMEN COUNTY
533 CHEBOYGAN COUNTY	980 MEEKER COUNTY
551 CHESTERFIELD COUNTY	983 MIDDLESEX COUNTY
583 CHURCHILL COUNTY	1032 MONMOUTH COUNTY
601 CLARKE COUNTY	1066 NEW LONDON COUNTY
602 CLEARWATER COUNTY (USAF)	1067 NYE COUNTY
603 COCONINO COUNTY	MCS 6 (ex-LST 1069) ORLEANS PARISH
692 DAVIESS COUNTY (USAF)	1073 OUTAGAMIE COUNTY
715 DE KALB COUNTY	1076 PAGE COUNTY
722 DODGE COUNTY	1077 PARK COUNTY
758 DUVAL COUNTY	1082 PITKIN COUNTY
762 FLOYD COUNTY	1083 PLUMUS COUNTY
785 GARRETT COUNTY	1084 POLK COUNTY
819 HAMPSHIRE COUNTY	1088 PULASKI COUNTY
821 HARNETT COUNTY	1096 ST. CLAIR COUNTY
822 HARRIS COUNTY (MSTS)	1122 SAN JOAQUIN COUNTY
824 HENRY COUNTY	1123 SEDGWICK COUNTY
825 HICKMAN COUNTY	1126 SNOHOMISH COUNTY
836 HOLMES COUNTY	1134 STARK COUNTY
838 HUNTERDON COUNTY	1141 STONE COUNTY
839 IREDELL COUNTY	1146 SUMMIT COUNTY
846 JENNINGS COUNTY	1148 SUMNER COUNTY
848 JEROME COUNTY	1150 SUTTER COUNTY

Displacement:	1,653 tons *standard*, 2,366 *beaching*, 3,960 *trials* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	7—40 mm. AA., 2—20 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,700 = 11·6 kts.
Cargo capacity:	2,100 tons
Complement:	119 (accommodation for 266)

General Notes

All LSTs listed above and on previous page, which previously carried numbers only, were named on 1 July 1955. Following LSTs assigned to MSTS and not named: 17 Japanese-manned, LSTs 47, 117, 230, 276, 277, 399, 456, 491, 550, 579, 600, 607, 613, 623, 629, 630, 649; one civil service manned LST 287. The MSTS LSTs (USNS) are not armed. LST 1072 (unnamed) is on loan to the U.S. Air Force. Twelve others un-named, LSTs 176, 222, 488, 530, 546, 566, 572, 581, 587, 590, 626, 643, are in reserve in Japan.

Aircraft Notes

Greer County, LST 799, which served as a mine squadron flagship and carried helicopters, was decommissioned in 1960.

Photograph Notes

A larger port bow oblique aerial view of *St. Clair County* appears in the 1958-59 and 1959-60 editions, a nd a larger starboard view of *Sublette County* in the 1954-55 to 1957-58 editions.

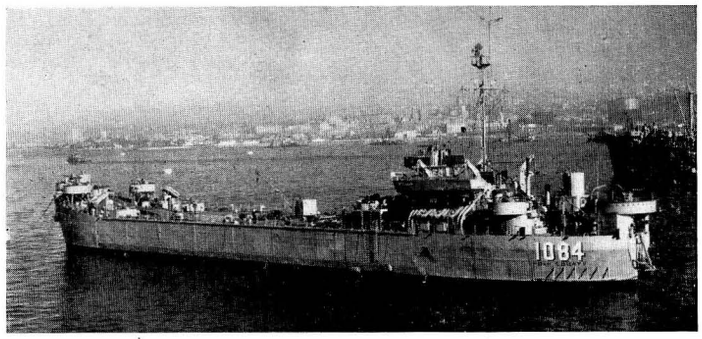
Reclassification Notes

King County was reclassified from LST 857 to AG 157 on 17 May 1958, but stricken from the Navy List in 1960 (see *Guided Missile Notes* and photograph on page 374 of the 1960-61 edition). *Orleans Parish* was reclassified from LST 1069 to MCS 6 on 19 Jan. 1959.

Conversion Notes

Holmes County, LST 836, *Polk County*, LST 1084, *Stone County*, LST 1141 and *Sumner County*, LST 1148, were converted under the 1960 FRAM Mark II program.

Tank Landing Ships—*continued*



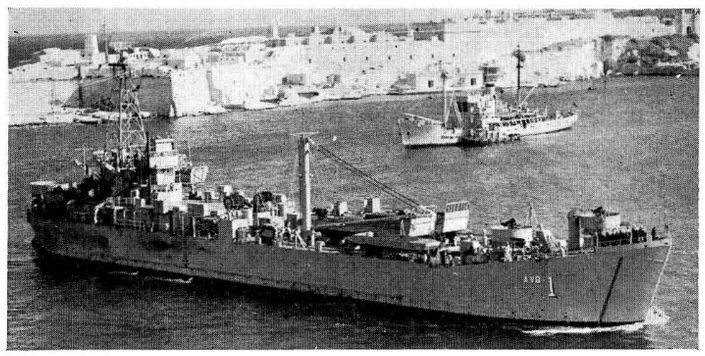
POLK COUNTY 1961, *United States Navy, Official*

Transfer Notes

LST 53, unnamed, was transferred to Korea as a Barracks Ship. LST 1010 was transferred to Korea on 22 Mar. 1955. LST 279 *Berkeley County* and LST 400 *Bradley County* were transferred to Nationalist China. LST 288 *Berkshire County* was transferred to Korea on 5 Mar. 1956. LST 31 *Addison County*, LST 57 *Armstrong County*, LST 482 *Branch County*, LST 483 *Brewster County* and LST 504 *Buchanan County* were stricken from the Navy List on 11 Aug. 1955 and used as targets. LST 840 *Iron County*, LST 859 *Lafayette County*, LST 1110 *San Bernardino County*, LST 1091 *Sagadahoe County* and LST 1152 *Sweetwater County* were transferred to Nationalist China in 1958. LST 849 *Johnson County*, LST 853 *Kane County*, LST 900 *Lynn County* and LST 1080 *Pender County* were transferred to the South Korean Navy in 1958. *Solano County*, LST 1128, was transferred to Indonesia in 1960. *Hamilton County*, LST 802, was sold to Japan in 1960. *Potter County*, LST 1086, was transferred to Greece in 1960. LST 849 was transferred to Korea, LST 503, LST 520, LST 535, LST 578, and LST 735 were transferred to Taiwan. LST 512 was sold to Peru. *Greer County*, LST 799, *Rice County*, LST 1089, and *Saline County*, LST 1101 were sold to West Germany in 1961. *Lawrence County*, LST 887 and *Russell County* LST 1090 were transferred to Indonesia. *Dogett County*, LST 689, *Hillsdale County*, LST 835, and *Nansemond County*, LST 1064, were transferred to Japan in 1961. *Sublette County*, LST 1144, was transferred to Taiwan China in Jan. 1961. *Millard County*, LST 987, and *Montgomery County*, LST 1041 were sold to West Germany in 1961. LST 616, LST 652 and LST 657 were transferred to Indonesia in 1961. *Lincoln County*, LST 898, was transferred to Thailand in 1962. *Marricopa County*, LST 938 and *Marion County*, LST 975 were transferred to Vietnam in 1962.

Recent Disposals

LST 512 *Burnett County* disposal approved Feb. 1957 and she was transferred (sold) to Peru in 1958. LST 602, 692, 822, 975, are operated by MSTS, having been decommissioned in 1956 and their guns removed (LST 602, 692, 1072 were loaned to the Air Force from MSTS in 1957). LST 988 *Mineral County* was stripped, and destroyed as a target for gunfire. LST 772 *Ford County*, LST 855 *Kent County* and LST 1068 *Orange County* were also disposed of at the end of 1957, and LST 527 *Cassia County*, LST 803 *Hampden County* and LST 827 *Hillsborough County* were disposed of in 1958. LST 561 *Chittenden County* was disposed of owing to the expense of repairing her after her grounding at Kanai, T.H., in Mar. 1958. She was salvaged after stranding, but was decommissioned on 2 June 1958, stricken from the Navy List on 27 June 1958 and torpedoed by the submarine *Sargo* off Oahu in Nov. 1958. *Lyman County*, LST 903, and *Lyon County*, LST 904, and others were sunk as targets in 1959. *Calaveras County*, LST 516, *Crook County*, LST 611, *Eddy County*, LST 759, *Esmeralda County*, LST 761, *Garfield County*, LST 784, *Gibson County*, LST 794, were stricken from the Navy List in 1959. *Cape May County*, LST 521, *Catahoula Parish*, LST 528, *Chelan County*, LST 542, *Curry County*, LST 685, *Douglas County*, LST 731, *Juniata County*, LST 850, *Lake County*, LST 880, *Lamoure County*, LST 883, *Lee County*, LST 888. *Mahoning County*, LST 914, *Marinette County*, LST 953, *Morgan County*, LST 1048, *Ouachita County*, LST 1071, *Overton County*, LST 1074, *Payette County*, LST 1079, *Pima County*, LST 1081, *Somervell County*, LST 1129, and *Stratford County*, LST 1142, were all stricken between 1 June 1959 and 30 June 1960. *King County*, AG 157 (ex-LST 857) and LST 618 were stricken in 1960. *Jefferson County*, LST 845, and *Steuben County*, LST 1138, were also disposed of, LST 325, LST 664 and *Dunn County*, LST 742, were stricken in 1961.



ALAMEDA COUNTY (as Advance Aviation Base Ship) 1961, *A. & J. Pavia*

2 LST 1-510 Series

LST 344 BLANCO COUNTY **LST 509 BULLOCH COUNTY**

Displacement:	1,625 tons *light*, 2,366 tons *beaching* (4,050 tons *full load*)
Dimensions:	328 (*o.a.*) × 50 × 14½ (*max.*) feet
Guns:	7—40 mm. AA., 2—20 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,700 = 10·8 kts.
Complement:	80 to 119 (plus 147 troops)

General Notes

These ships are ocean tank carriers with bow doors. In the Second World War LST 32 was fitted with railway lines on the tank deck to enable her to transport trucks from Sicily to the mainland. She was converted to Naval Air Force, Atlantic, Flagship in 1953. Fitted for advanced base air support, she carries 2 LCM on deck.

Reclassification Notes

Alameda County was reclassified from LST 32 to AVB 1 (Advance Aviation Base Ship) on 28 Sep. 1957.

Photograph Notes

A larger starboard quarter view of *Alameda County* appears in the 1954-55 to 1959-60 editions.

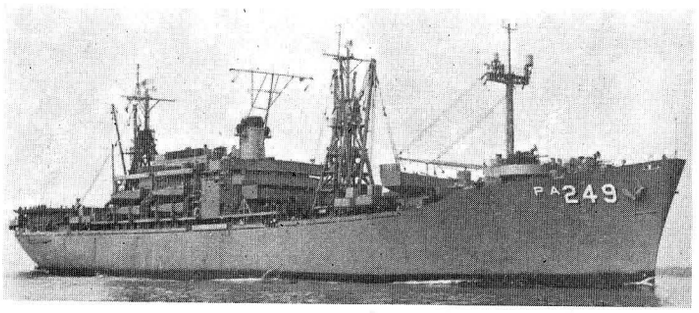
Transfer Notes

LST 503 was transferred to Taiwan on 29 Apr. 1955. LST 218 and LST 227 were transferred to Korea in 1955. *Boone County*, LST 389, and *Bowman County*, LST 391, were transferred to Greece in 1960.

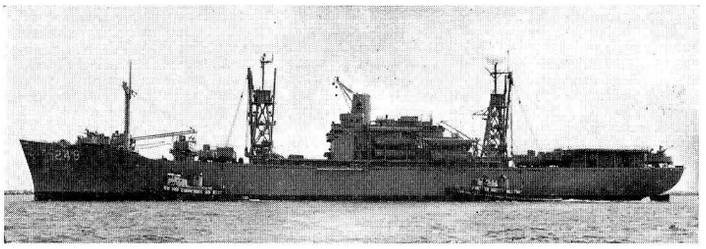
Recent Disposals

LST 291 was stricken after grounding in 1954. *Atchison County*, LST 60, *Bamberg County*, LST 209, *Benton County*, LST 263, *Benzie County*, LST 266, *Bernalillo County*, LST 306, *Bledsoe County*, LST 356, and *Buncombe County*, LST 510, were stricken on 1 June 1959 and 30 June 1960. *Alameda County*, AVB 1 (ex-LST 32) was stricken from the list in June 1962.

ATTACK TRANSPORTS (APA)



FRANCIS MARION — 1962, *United States Navy, Official*



PAUL REVERE — 1960, *United States Navy, Official*

2 "Paul Revere" Class

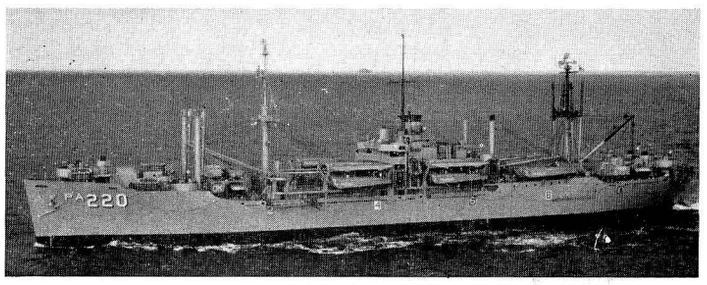
APA 249 FRANCIS MARION (ex-*SS Prairie Mariner*, MA 29)
APA 248 PAUL REVERE (ex-*SS Diamond Mariner*)

Displacement:	10,709 tons *Navy light* (18,000 tons *full load*)
Measurement:	16,838 tons *gross*
Dimensions:	528 (*pp.*), 563½ (*o.a.*) × 76 × 24½ feet
Guns:	4—3 inch, 50 cal. in two twin mountings
Machinery:	General Electric geared turbines. 1 shaft. S.H.P.: 19,250 = 20 kts.
Complement:	414 (35 officers, 379 men)

General Notes

Paul Revere is a "Mariner" type C4-S-1 cargo vessel converted into an Attack Transport, APA, by Todd Shipyard Corp., San Pedro, Calif., under the 1957 Fiscal Year Conversion Program. Contract was awarded in Aug. 1956. Commissioned on 3 Sep. 1958 and completed on 29 Sep. 1958. She has accommodation for a 1,500 strong Marine Battalion, a helicopter platform on the stern for troop helicopters, and is fitted as an Amphibious Command Flagship.

Francis Marion was a similar "Mariner" type hull converted into an APA by Bethlehem Steel, Key Highway Yard, Baltimore, Md., under the Fiscal Year 1959 Program (conversion started on 13 Apr. 1959 and the ship was commissioned on 6 July 1961). Both ships were originally built by New York Shipbuilding Corporation, Camden, *Francis Marion* in 1954 and *Paul Revere* in 1953.



OKANOGAN — 1960, *United States Navy, Official*

14 "Haskell" Class

APA	APA	APA
237 BEXAR	**213 MOUNTRAIL**	**227 RENVILLE**
195 LENAWEE	**215 NAVARRO**	**228 ROCKBRIDGE**
199 MAGOFFIN	**218 NOBLE**	**194 SANDOVAL**
212 MONTROSE	**220 OKANOGAN**	**208 TALLADEGA**
	222 PICKAWAY	**210 TELFAIR**

Displacement:	6,720 tons *light*, (12,450 tons *full load*)
Dimensions:	436½ (*w.l.*), 455 (*o.a.*) × 62 × 24 (*max.*) feet
Guns:	12—40 mm. AA. (see *Gunnery Notes*)
Machinery:	Geared turbines. S.H.P.: 8,500 = 17·7 kts.
Boilers:	2 Babcock & Wilcox
Complement:	536 (war)

General Notes

VC 2-S-AP 5 "Victory" type, all launched in 1944-45. Hitherto referred to as the "Arenac" class, but officially known in the United States Navy as the "Haskell" class. All have county names. Can Carry 1,560 troops and 3,000 tons of war stores.

Gunnery Notes

The 5-inch gun has been removed from all units of this class. Scheduled to be replaced by a twin 3-inch, 50 cal., rapid fire mount, but none installed at present.

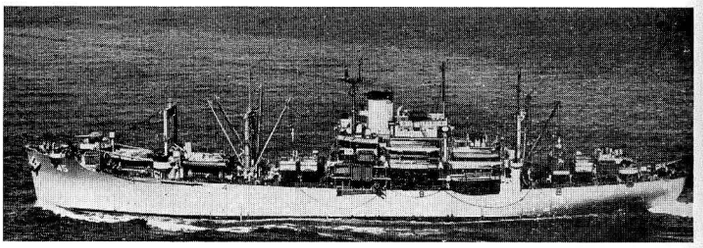
Photograph Notes

Larger photographs of *Pickaway* in the 1953-54 to 1958-59 editions, and *Olmsted* in the 1959-60 edition.

Recent Disposals

Arenac, 128, *Barnwell*, 132, *Bronx*, 236, *Brookings*, 140, *Clinton*, 144, *Crockett*, 148, *Dane*, 238, *Edgecombe*, 164, *Gage*, 168, *Grimes*, 172, *Kershaw*, 176, *Lavaca*, 180, *Lubbock*, 197, *McCracken*, 198, *Menifee*, 202, *Meriweather*, 203, *Mifflin*, 207, *Missoula*, 211, *Natrona*, 214, *Nesheba*, 216, *New Kent*, 217, *Okaloosa*, 219, *Oneida*, 221, *Rawlins*, 226, *Rockingham*, 229, *Rutland*, 192, *San Saba*, 232, *Sherburne*, 205, *Sibley*, 206, and *Tazewell*, 209 (30 attack transports, APA), were stricken from the Navy List and transferred to the Maritime Administration Reserve Fleet in 1959. *Deuel*, 160, *Lagan*, 196, *Rockwall*, 230, were transferred to Maritime Administration in 1960. *Deuel* and *Rockwall* were stricken on 1 Dec. 1958. *Glynn*, 239, *Latimer*, 152, *Mellette*, 201, *Mountrail*, 213, *Olmstead*, 188, *Randall*, 224, *Sanborn*, 193, *Sarasota*, 204, were disposed of in 1961, and *Botetourt*, 136, *Bottineau*, 235, *Menard*, 201, were stricken from the Navy List and transferred to the Maritime Administration Reserve Fleet in 1961. (60 U.S. Navy Ships are in Maritime Administration custody, including certain oilers, but remain on the Navy List). *Mountrail*, 213, *Sandoval*, 194, and *Telfair*, 210, were reacquired from the Maritime Administration in 1961, reinstated on the Navy List and recommissioned.

Attack Transports—*continued*



HENRICO — 1960, *United States Navy, Official*

"6 Bayfield" Class

APA	APA
33 BAYFIELD (ex-*Sea Bass*)	**38 CHILTON** (ex-*Sea Needle*, 24 Dec. 1942)
36 CAMBRIA (ex-*Sea Swallow*)	**44 FREMONT** (ex-*Sea Corsair*, 31 Mar. 1943)
37 CAVALIER (15 Mar. 143)	**45 HENRICO** (ex-*Sea Darter*, 31 Mar. 1943)

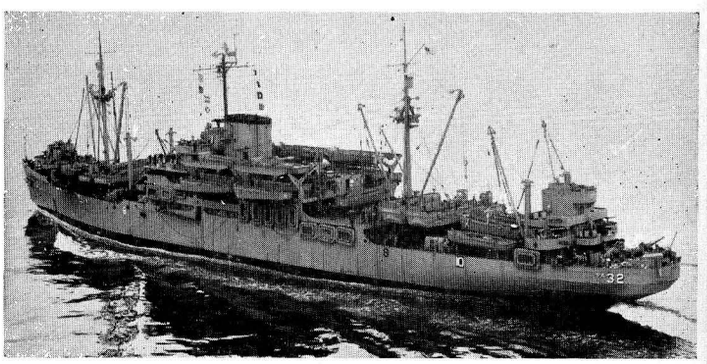
Displacement:	8,100 tons *light* (16,100 tons *full load*)
Dimensions:	465 (*w.l.*), 492 (*o.a.*) × 69½ × 26½ (*max.*) feet
Guns:	2—5 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 18 4 kts.
Boilers:	2 Combustion Engineering type
Complement:	250

General Notes

C3-S-A2 type, formerly with "Sea" names; but subsequently given county names by the United States Navy.

Photograph Notes

A larger starboard broadside surface view of *Chilton* appears in the 1952-53 to 1959-60 editions.



CALVERT — *Ted Stone*

2 "Delta" Class

APA	APA
32 CALVERT (ex-*Deloreans*, 29 May 1943)	**31 MONROVIA** (ex-*Delargentino*, 1942)

Displacement:	8,429 tons *light* (14,247 tons *full load*)
Dimensions:	468 (*pp.*), 491 (*o.a.*) × 65½ × 25¾ (*max.*) feet
Guns:	1—5 inch, 3—3 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 7,800 = 16 kts.
Boilers:	2 Babcock & Wilcox

General Notes

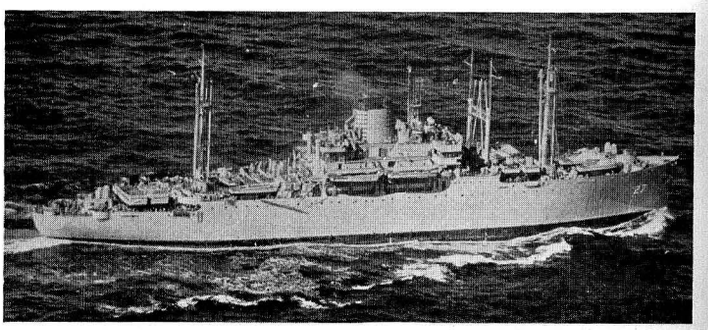
C 3 Delta type, formerly with "Del" names. Can carry 1,200 troops. Built by Bethlehem, Sparrows Point.

Photograph Notes

A larger starboard broadside surface view of *Monrovia* appears in the 1954-55 to 1957-58 editions.

Recent Disposals

Charles Carroll, APA 28, and *Crescent City*, APA 21, were stricken from the Navy List and transferred to the Maritime Administration Reserve Fleet in 1959.



GEORGE CLYMER — *United States Navy, Official*

1 "American" Class

APA
27 GEORGE CLYMER (ex-*African Planet*, *American Farmer*)

Displacement:	10,812 tons *Navy light* (18,000 tons *full load*)
Dimensions:	465 (*w.l.*), 489 (*o.a.*) × 69¾ × 27½ feet
Guns:	4—3 inch, 6—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 18·4 kts.
Complement:	512

General Notes

C3-P type. Can carry 27 LCT and 1,400 troops. Fitted as a flagship. Launched in 1941.

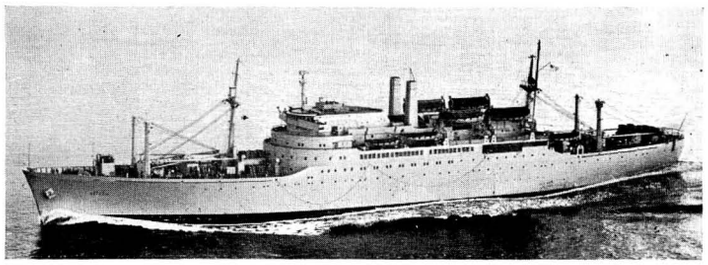
Photograph Notes

A larger photograph of *George Clymer* appears in the 1959-60 and earlier editions.

Recent Disposals

Arthur Middleton, APA 25, and *Samuel Chase*, APA 26, of the "American" class, and *President Adams*, APA 19, *President Hayes*, APA 20, *President Jackson*, APA 18, and *Thomas Jefferson* (ex-*President Garfield*), APA 30 (all four ships of the "President" type), were stricken from the Navy List in 1959 and transferred to the Maritime Administration Reserve Fleet.

TRANSPORTS



GEIGER *Added 1960, Skyfotos*

3 "Barrett" Class

T-AP
196 BARRETT (ex-*President Jackson*)
197 GEIGER (ex-*President Adams*)

T-AP
198 UPSHUR (ex-*President Hayes*)

Displacement:	17,600 tons *standard* (19,600 tons *full load*)
Measurement:	12,660 tons (*gross*), 10,600 tons *deadweight*
Dimensions:	500 (*pp.*), 533 (*o.a.*) × 73 × 27 feet
Machinery:	Geared turbines. 1 shaft. S.H.P.: 13,750 = 19 to 20 kts. (cruising, see notes)

General Notes

Maritime Administration type P2-S1-DN1. All three built by the New York Shipbuilding Corporation, New Jersey. Originally laid down as passenger ships for the American President Lines but taken over by the Navy to be completed as troop transports, and have all been assigned to Military Sea Transportation Service as U.S. Naval Ships (non-commissioned naval vessels). Troop carrying capacity of 1,500 plus 396 cabin berths for officers and dependants. Troop lift can be increased by at least 1,000 men if necessary by converting recreation areas into berthing spaces. All spaces, compartments and holds are air-conditioned except the engine room and bridge.

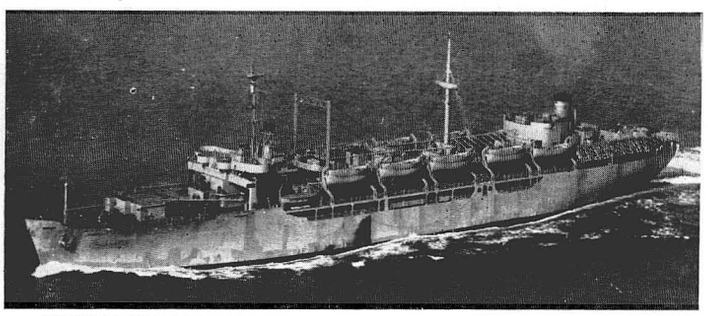
Engineering Notes

On sea trials *Barrett* attained speed 21·5 knots at full power, 1·5 knots more than expected by engineers on the basis of shaft horse power developed.

Photograph Notes

A larger starboard bow oblique aerial view of *Upshur* appears in the 1957-58 to 1959-60 editions, and a larger starboard broadside view of *Barrett* in the 1953-54 to 1956-57 editions.

Name	*Laid down*	*Launched*	*Completed*
Barrett	1 June 1949	27 June 1950	15 Dec. 1951
Geiger	1 Aug. 1949	9 Oct. 1950	13 Sep. 1952
Upshur	30 Sep. 1949	19 Jan. 1951	20 Dec. 1952



GENERAL WILLIAM MITCHELL *Added 1960, Ted Stone*

5 P-2 "General" Class

T-AP
115 GENERAL G. M. RANDALL (30 Jan. 1944)
176 GENERAL J. C. BRECKINRIDGE (18 Mar. 1944)
112 GENERAL W. A. MANN (18 July 1943)
114 GENERAL WILLIAM MITCHELL (31 Oct. 1943)
117 GENERAL W. H. GORDON (USNS) (7 May 1944)

Displacement:	11,828 tons *standard* (20,175 tons *full load*)
Dimensions:	573 (*w.l.*), 622½ (*o.a.*) × 75½ × 25½ (*max.*) feet
Machinery:	De Laval geared turbines. 2 shafts S.H.P.: 17,000 = 20·6 kts.
Boilers:	4 Foster-Wheeler, 465 lb. working pressure.
Troops:	5,500

General Notes

All built by Federal S.B. & D.D. Co. at Kearny. Guns removed from commissioned ships in 1955. *General W. H. Gordon*, T-AP 117 was reacquired from the Maritime Administration, returned to the Navy and assigned to the MSTS in 1961, being manned by a civil service crew.

Photograph Notes

A larger port bow aerial view of *General H. W. Butner* appears in the 1956-57 to 1959-60 editions, and a starboard bow surface view of *General A. E. Anderson* in the 1951-52 to 1955-56 editions.

Recent Disposals

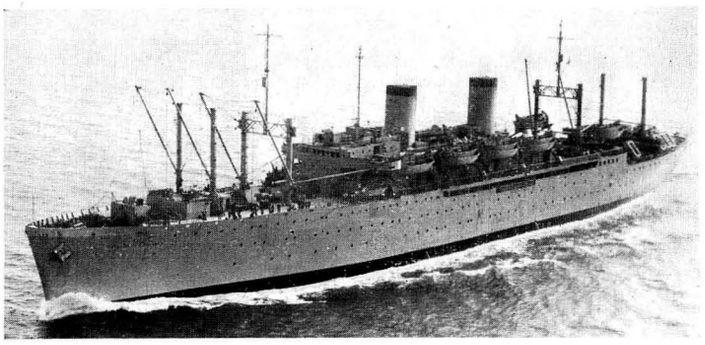
AP 111 *General A. E. Anderson*, AP 110 *General John Pope*, AP 116 *General M. C. Meigs* AP 119 *General William Weigel* and AP 117 *General W. H. Gordon* were transferred to the Maritime Administration Reserve Fleet in 1958, being excess to MSTS needs. *General John Pope*, T-AP 110, and *General M. C. Meigs*, T-AP 116, were stricken in 1959. *General H. W. Butner*, T-AP 113, was transferred to the Maritime Administration in May 1961.

The transports *Le Jeune* (former German liner *Windhuk*) built by Blohm & Voss, and *Wakefield* (ex-liner *Manhatton*) were stricken from the Navy List in 1957 and transferred to the Maritime Administration.

MSTS Notes

On 1 Oct. 1949 the U.S. Navy's Military Sea Transportation Service took over Naval and Army Transport Services. Non-commissioned ships of the Military Sea Transportation Service (U.S. Naval Ships), Transports, Cargo Ships and Tankers, are identified by a *blue and gold band* on their funnels, with names painted on each bow and stern prefixed with the letters U.S.N.S. In other respects they are painted as other U.S. Navy ships. "T" prefixed to designations indicates assignment to MSTS.

Transports—*continued*



GENERAL SIMON B. BUCKNER *Added 1960, Skyfotos*

7 "Admiral" Class

T-AP
120 GENERAL DANIEL I. SULTAN (ex-*Admiral W. S. Benson*)
121 GENERAL HUGH J. GAFFEY (ex-*Admiral W. L. Capps*)
122 GENERAL ALEXANDER M. PATCH (ex-*Admiral R. E. Coontz*)
123 GENERAL SIMON B. BUCKNER (ex-*Admiral E. W. Eberle*)
124 GENERAL EDWIN D. PARTICK (ex-*Admiral C. F. Hughes*)
126 GENERAL MAURICE ROSE (ex-*Admiral Hugh Rodman*)
127 GENERAL WILLIAM O. DARBY (ex-*Admiral W. S. Sims*)

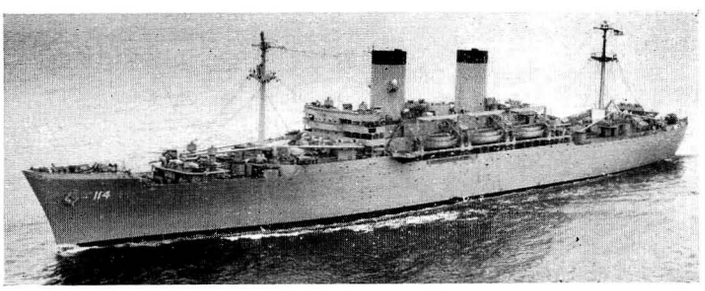
Displacement:	9,676 tons *standard* (20,120 tons *full load*)
Dimensions:	609 (*o.a.*) × 75½ × 26½ (29 *max.*) feet
Machinery:	2 G.E. Turbo-electric. 2 shafts. S.H.P.: 18,000 = 19 kts.

General Notes

M.C. Type P 2-SE2-R1. Ex-" Admiral " Class. All built by Bethlehem-Alameda in 1944-45. T-AP 125 *General Nelson M. Walker* (ex-*Admiral H. T. Mayo*) was transferred to the Maritime Administration in 1958, but was reacquired by the Navy as a result of the Lebanon landings in July 1958. She was stricken from the " List of Naval Vessels " on 20 Jan. 1959, and transferred to the Maritime Administration as excess to MSTS requirements.

Photograph Notes

A larger port bow oblique aerial view of *General Maurice Rose* appears in the 1952-53 to 1959-60 editions, and a larger starboard bow surface view of *General Alexander M. Patch* in the 1950-51 and 1951-52 editions.



GENERAL LE ROY ELTINGE *Added 1951, United States Navy, Offical*

2 "General" Class

T-AP
153 GENERAL R. M. BLATCHFORD

T-AP
154 GENERAL LE ROY ELTINGE

Displacement:	10,034 tons *standard* (17,250 tons *full load*)
Dimensions:	522 7/8 (*o.a.*) × 71½ × 26½ (*max.*) feet
Machinery:	Westinghouse turbine. S.H.P.: 9,000 = 17 kts.

General Notes

Type C4-S-A1. " General " Class. All built by Kaiser Co. Richmond, California, in 1943-45. Carry 1,500 to 3,000 troops. T-AP 146, 148, 157, 159 laid up in Navy's Reserve Fleets 1954, 141, 142, 147, 149, in 1955. T-AP 135 and 155 stricken from Navy List and transferred to Maritime Administration, 1956.

Twelve of the " General " class transports, T-AP 134, 137, 138, 139, 140, 143, 144, 145, 150, 151, 156 and 158, were transferred to the Maritime Administration in 1958 as excess to M.S.T.S. requirements (T-AP 134, 137, 143 and 145 were stricken in 1959). Of the remaining ten, 141, T-AP 153 and 154 are in the M.S.T.S. *General A. W. Greely*, *General C. H. Muir*, 142, *General W. F. Hase*, 146, *General E. T. Collins*, 147, *General M. L. Hersey*, 148, *General J. M. McRae*, 149, *General C. C. Ballou*, 157, and *General Stuart Heintzelman*, 159 were transferred to the Maritime Administration in 1960.

Photograph Notes

A larger starboard bow oblique aerial view of *General M. L. Hersey* appears in the 1958-59 and 1959-60 editions, and a larger port bow aerial view of *General M. B. Stewart* appears in the 1952-53 to 1957-58 editions. A starboard quarter oblique aerial view of *General W. F. Hase* appears in the 1960-61 edition.

Transfer Notes

Frederick Funston, T-AP 178, *James O'Hara*, T-AP 179, *David C. Shanks*, T-AP 180, *Fred C. Ainsworth*, T-AP 181, *George W. Goethals* (photograph in the 1952-53 to 1960-61 editions), T-AP 182, and *Henry Gibbins*, T-AP 183, were stricken and transferred to the Matitime Administration in 1960. as excess to Military Sea Transportation Service requirements. (*Henry Gibbins* has been turned over to the New York Maritime College at Fort Schuyler as a training vessel on a loan basis).

T-AP 186, *Sergeant Charles E. Mower*, was stricken in 1960 and transferred to the Maritime Administration in excess to MSTS needs. Sister ships T-AP 185 *Private William H. Thomas* (ex-*Rixey*) and T-AP 184 *Private Eldon H. Johnson* (ex-*Pinkney*) were transferred to the Maritime Administration late in 1957.

T-AP 202, *Marine Serpent*, was returned to Maritime Administration in 1955. All four transports of the C4-S-A3 type, T-AP 193 *Marine Adder*, T-AP *Marine Lynx*, T-AP 195 *Marine Phoenix* and T-AP 199 *Marine Carp*, were transferred to the Maritime Administration in 1958 as excess to MSTS needs. T-AP 184, 185, and 199 were stricken in 1959.

ATTACK CARGO SHIPS (AKA)



TULARE — 1960, *United States Navy, Official*

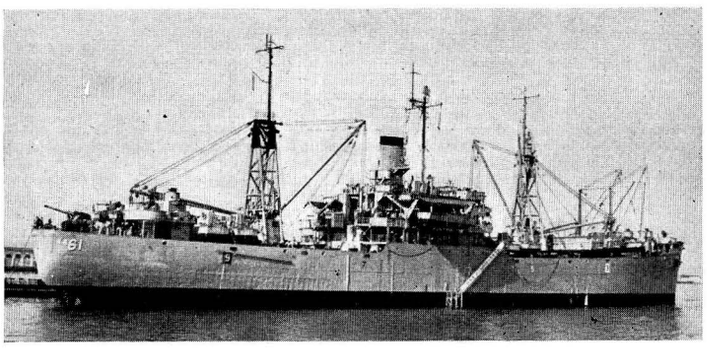
1 "Tulare" Class

AKA
112 TULARE (ex-*Evergreen Mariner*)

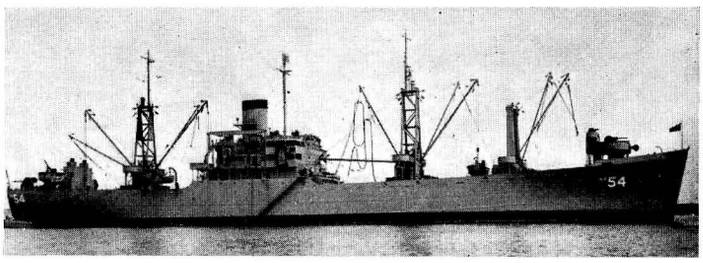
Displacement:	12,000 tons *light* (17,988 tons *full load*)
Measurement:	9,200 tons *gross*, 13,400 tons *deadweight*
Dimensions:	528½ (*pp.*), 564 (*o.a.*) × 76 × 24½ (28 *max.*) feet
Guns:	12—3 inch, 50 cal. in six twin mountings
Machinery:	Turbine. 1 shaft. S.H.P.: 22,000=20 kts.
Complement:	38 officers, 399 men

General Notes
Built by Bethlehem, San Francisco. Laid down on 16 Feb. 1953, launched on 22 Dec. 1953. Acquired by Navy during construction. Commissioned on 13 Jan. 1956. C4-S-1 B type. Has helicopter landing platform and booms capable of lifting 60-ton landing craft. Carries 9 LCM-6 landing craft. Can carry 575 troops and crew, 27 landing craft and 300 vehicles.

Photograph Notes
Larger photographs of *Tulare* appear in the 1957-58 to 1959-60 editions.



MULIPHEN — *Added, 1960, Giorgio Arra*



ALGOL — 1960, *United States Navy, Official*

13 "Andromeda" Class

AKA
53 ACHERNAR (22 Dec. 1943)
54 ALGOL (ex-*James Baines*)
56 ARNEB (ex-*Mischief*)
57 CAPRICORNUS (ex-*Spitfire*)
96 MATTHEWS (22 Dec. 1944)
97 MERRICK (28 Jan. 1945)
61 MULIPHEN (26 Aug. 1944)

AKA
100 OGLETHORPE (15 Apr. 1945)
19 THUBAN (26 Apr. 1943)
88 UVALDE (ex-*Wild Pigeon*) (20 May 1944)
94 WINSTON (30 Nov. 1944)
92 WYANDOT (28 June 1944)
93 YANCEY (8 July 1944)

Displacement:	7,430 tons *light* (12,800 tons *full load*)
Dimensions:	435 (*w.l.*), 459½ (*o.a.*) × 63 × 24 (*max.*) feet
Guns:	8—40 mm. AA. (see *Notes*)
Machinery:	Geared turbines. S.H.P.: 6,000=16·4 kts.
Boilers:	2 Foster-Wheeler
Complement:	247

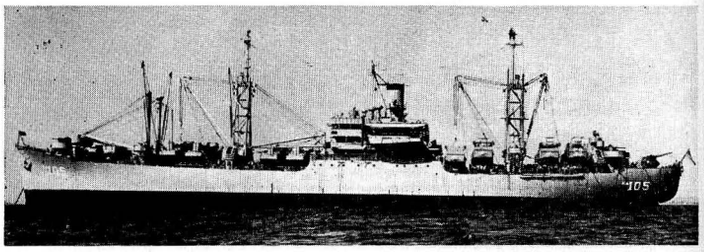
General Notes
C2-S-B1 type. Launch dates above. Can carry over 5,200 tons of cargo and 2,200 tons of tanks. *Arneb* completed refit for Arctic service on 15 Mar. 1949. *Wyandot* was also "winterised" with double hull plating. *Matthews* and *Merrick* were re-acquired from the Maritime Administration Reserve Fleet by the Navy in 1951, and reactivated. *Achernar*, 53, *Algol*, 54, *Uvalde*, 88, *Winston*, 94, *Wyandot*, 92, and *Yancey*, 93, were reacquired, reinstated on the Navy List, and recommissioned in 1961; but *Achernar* and *Wyandot* are to be decommissioned in 1962. The 5 inch gun has been removed from all active units.

Photograph Notes
Larger photographs of *Arneb* and *Matthews* appear in the 1957-58 edition and of *Wyandot* in the 1958-59 and 1959-60 editions.

Transfer Notes
Whitley, AKA 91, was reactivated and reinstated on the Navy List in 1961, and transferred to Italy in 1962.

Recent Disposals
Alshain, 55, *Andromeda*,15, *Chara*, 58, *Leo*, 60, *Marquette*, 95, *Montague*, 98, *Rolette*, 99, were disposed of in 1961 *Diphda*, 59, *Virgo*, 20, *Warrick*, 89, and *Whiteside*, 90, were stricken from the Navy List and transferred to the Maritime Administration Reserve Fleet in 1961.

Attack Cargo Ships—*continued*



SKAGIT — 1960, *United States Navy, Official*

6 "Rankin" Class

AKA
103 RANKIN (22 Dec. 1944)
104 SEMINOLE (28 Dec. 1944)
105 SKAGIT (28 Nov. 1944)

AKA
106 UNION (23 Nov. 1944)
107 VERMILION (12 Dec. 1944)
108 WASHBURN (12 Dec. 1944)

Displacement:	6,456 tons *Navy light* (14,160 tons *full load*)
Dimensions:	459½ (*o.a.*) × 63 × 26½ (*max.*) feet
Guns:	8—40 mm. AA., 10—20 mm. AA. (See *Gunnery Notes*)
Machinery:	Geared turbines. 1 shaft. S.H.P.: 6,000=16·5 kts.
Complement:	247

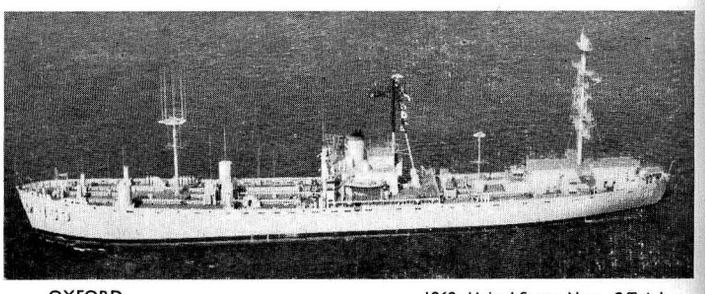
General Notes
C2-S-AJ3 type. Laid down in 1944 and first commissioned in the Navy in 1945. Combat load 4,500 tons.

Gunnery Notes
The 5-inch gun has been removed from all active ships of the "Rankin" and "Andromeda" classes and is scheduled to be replaced with a twin 3-inch gun.

Photograph Notes
A larger port bow view of *Skagit* appears in the 1954-55 to 1959-60 editions.

Recent Disposals
Of the "Libra" class, *Libra*, AKA 12, and *Oberon*, AKA14, were disposed of in 1961, and *Titania*, AKA 13, was stricken from the Navy List and transferred to the Maritime Administration Reserve Fleet in 1961.
Of the "Bellatrix" class, *Bellatrix*, AKA 3, was disposed of in 1961, and *Electra*, AKA 4, was stricken from the Navy List and transferred to the Maritime Administrative Reserve Fleet in 1961.

TECHNICAL RESEARCH SHIP



OXFORD — 1962, *United States Navy, Official*

1+4 New Conversion

AG 159 OXFORD (ex-*Samuel R. Aitken*, MCE 3127)
AG 165 (ex-S.S. *Robert W. Hart*)
AG 166 (ex-S.S. *J. Howland Gardner*)

Measurement:	7,330 tons
Dimensions:	441½ (*o.a.*) × 57 × 23 feet
Machinery:	Triple expansion. 1 H.P.: 2,500=12·5 kts.

Notes
Modified "Liberty" ships. *Oxford* was authorised in the Fiscal Year 1960 Conversion Program. Converted by New York Naval Shipyard. For research and to conduct experiments in communications and electromagnetic radiations. Unarmed. Conversion commenced Sept. 1960 for completion in Sept. 1961. Commissioned on 8 July 1961. AG 165 and AG 166 are converting to technical research ships under the Fiscal Year 1962 Conversion Program by Newport News Shipbuilding & Dry Dock Co.
Two similar ships were requested in the Fiscal Year 1963 Program.

SURVEYING SHIPS (AGS)

1 Projected

AGS
Notes
Requested in the Fiscal Year 1963 New Construction Program. This is the first of this type of surveying ship built by the Navy. Designed and equipped to conduct hydrographic surveys and collect other special oceanographic, acoustic and meteorological data. Planned as a follow ship to the AGOR type as far as possible, but the oceanographic research spaces have been adapted for the conduct of hydrographic surveys.

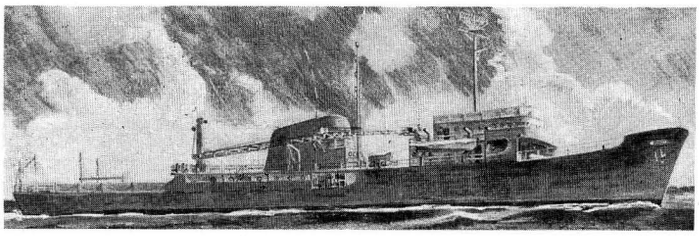
1 New Construction

AGS 25

Displacement:	1,370 tons
Dimensions:	210 (*o.a.*)

Notes
Prototype, authorised in 1962. This will be the first new construction surveying ship built by the U.S. Navy. Being built by Marietta Mfg. Co., Point Pleasant, W. Va. To be civilian manned and operated under the technical control of the Hydrographer. Unarmed. Similar to the new AGORs.

Surveying Ships—*continued*



JAMES M. GILLISS — 1962, *United States Navy, Official*

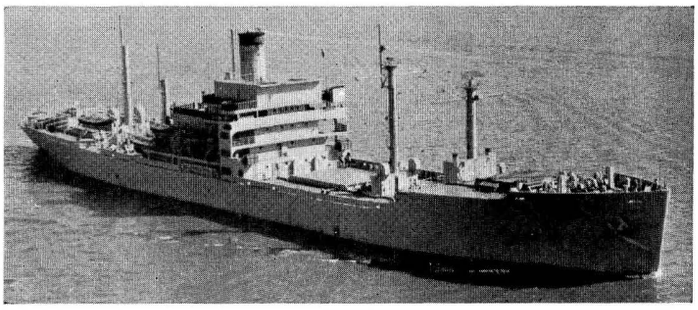
5+2 Oceanographic Research Type

AGOR 3 ROBERT D. CONRAD — **AGOR 6**
AGOR 4 JAMES M. GILLISS — **AGOR 7**
AGOR 5 CHARLES H. DAVIS — **AGOR 8**
AGOR 9

Displacement:	1,020 tons *standard* (1,370 tons *full load*)
Dimensions:	191½ (*w.l.*), 209 (*o.a.*) × 37½ × 15 (*max.*) feet
Machinery:	Diesel electric. 1 shaft. Bow propeller. H.P.: 1,200= 13 kts.
Range:	12,000 miles
Complement:	8 officers, 14 men, 15 scientists (MSTS civilian crew)

Notes

Robert D. Conrad was built under the 1960 New Construction Program by Gibbs Corporation, Jacksonville, Florida. Laid down 19 Jan. 1961 and launched on 26 May 1962. *James M. Gilliss* and *Charles H. Davis* were built under the Fiscal Year 1961 Program by Christy Corp., Sturgeon Bay, Wisconsin. Laid down on 1 May and 22 June 1961 and launched on 19 May and 30 June 1962, respectively. AGOR 6 and AGOR 7, authorised in 1962, are being built by Marietta Mfg. Co., Point Pleasant, W. Va. Two more AGOR are requested in the F.Y. 1963 Program. All are equipped to study sound transmission, effect of the ocean on scientific and naval instruments, and will obtain information on installation and improving ocean surveillance systems. Designed for high manoeuvrability at low speeds. Fitted with laboratories and meteorological rocket launching gear. A similar vessel will be constructed for the National Science Foundation. (A large survey ship program is planned: 18 scheduled to be built by 1968; 1 of 1,200 tons requested in 1960; 8 of same type—presumably one per year; 5 displacing between 2,000 and 3,000 tons with a crew of 29 plus 39 scientists; and 4 smaller vessels).



DUTTON — 1960, *courtesy Mr. W. H. Davis*

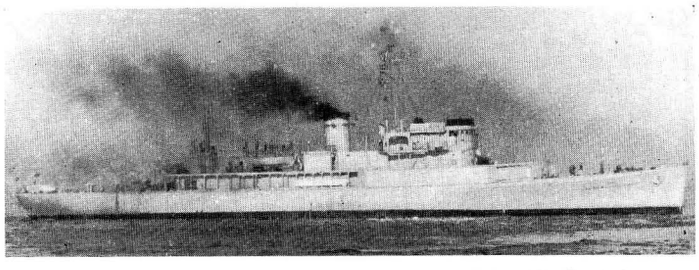
3 Ballistic Missile Support Type

T-AGS
21 BOWDITCH (ex-S.S. *South Bend Victory*) — **22 DUTTON** (ex-S.S. *Tuskegee Victory*)
23 MICHELSON (ex-S.S. *Joliet Victory*)

Notes

The conversion of three Victory hulls to AGS was requested in the 1958 Appropriations in support of the Fleet Ballistic Missile Program (Polaris). *Dutton* and *Michelson* were converted at Philadelphia Naval Shipyard. *Bowditch* was converted at Charleston Naval Shipyard. Operated by MSTS with civilian crew. Designed to chart the ocean floor and to record magnetic fields and gravity in order to enable vessels to establish geographical locations within a few yards of their actual positions.

Name	*Conversion started*	*Commissioned*	*Completed*
Bowditch	1 Oct. 1957	12 Sep. 1958	30 Sep. 1958
Dutton	8 Nov. 1957	15 Oct. 1958	16 Nov. 1958
Michelson	1 Mar. 1958	15 Dec. 1958	31 Dec. 1958



JOSIAH WILLARD GIBBS — *Added 1962, Giorgio Arra*

1 Oceanographic Research (Converted) Type

JOSIAH WILLARD GIBBS, T-AGOR 1 (ex-*San Carlos*, AVP 51)

Displacement:	1,750 tons *standard* (2,800 tons *full load*)
Dimensions:	300 (*w.l.*), 310¾ (*o.a.*) × 41½ × 13½ (*max.*) feet
Machinery:	2 sets Fairbanks-Morse diesels. 2 shafts. S.H.P.: 6,080=18 kts.

Notes

Former seaplane tender. Built by Lake Washington Shipyard, Houghton, Wash. Laid down on 7 Sep. 1942, launched on 20 Dec. 1942, and completed on 21 Mar. 1944. Assigned to Columbia University Hudson Laboratories by ONR in 1959, and operated by MSTS. Crew of 48 plus 28 scientists. Equipped with a 3rd auxiliary propeller for speeds of 4 kts. and less.

1 Coastal Type

LITTLEHALES AGSC 15 (ex-YF 854)

Notes

Former covered lighter converted and reclassified as a coastal survey ship on 14 Feb. 1959 and renamed.

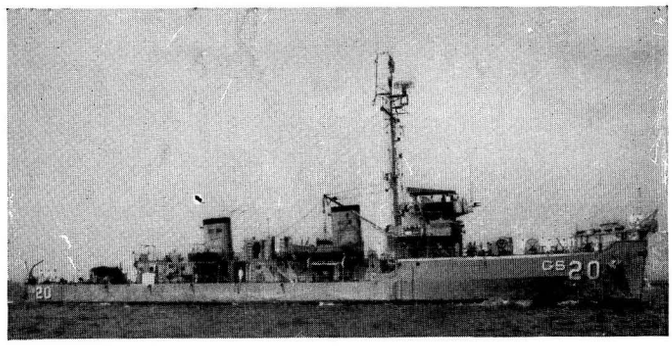
1 Ex-Tug Type

SERRANO, AGS 24 (ex-ATF 112)

Notes

Former fleet ocean tug of the "Apache" class reclassified from ATF to AGS on 15 June 1960.

Surveying Ships—*continued*



PREVAIL — 1957, *U.S. Navy, Official*

3 Ex-Fleet Minesweeper Type

PREVAIL (13 Sep 1942) — **SHELDRAKE** (12 Feb. 1942)
REQUISITE (25 July 1942)

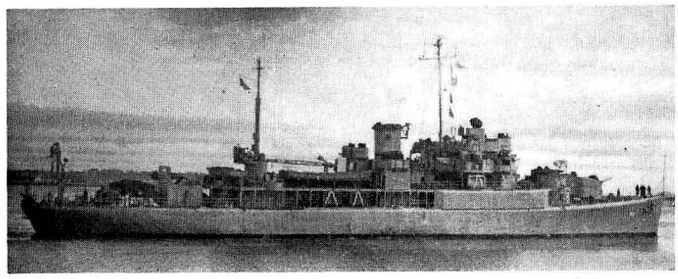
Displacement:	890 tons *standard* (1,250 tons *full load*)
Dimensions:	221½ (*o.a.*) × 32½ × 11 (*max.*) feet
Guns:	Removed.
Machinery:	Diesel-electric. 2 shafts. B.H.P.: 3,532=18 kts.
Complement:	100

General Notes

Former minesweepers *AM 107*, *AM 109* and *AM 62*, respectively, reclassified as surveying vessels, *AGS 20*, *AGS 18* and *AGS 19* early in 1952. Launch dates above. Sister ship *Pursuit AGS 17* (ex-*AM 108*) was disposed of in 1960.

Gunnery Notes

Guns were removed in 1957.



REHOBOTH — *P. Sweeney*

2 Ex-Seaplane Tender Type

REHOBOTH (8 Nov. 1942) — **SAN PABLO** (31 Mar. 1942

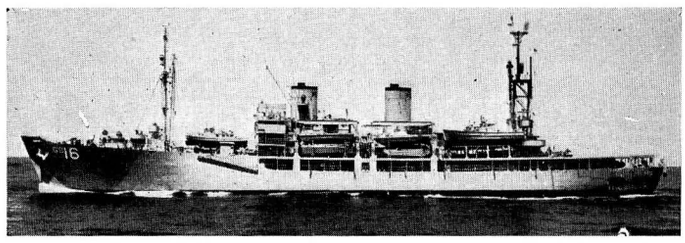
Displacement:	1,766 tons *standard* (2,800 tons *full load*)
Dimensions:	300 (*w.l.*), 310¾ (*o.a.*) × 41⅛ × 13½ (*max.*) feet
Guns:	Removed
Machinery:	Fairbanks-Morse diesel-electric. 2 shafts. B.H.P.: 6,080= 18·2 kts.
Complement:	215

General Notes

Former Seaplane Tenders (Small). These vessels were reclassified as AGS and assigned to duties as deep-sea hydrographic-surveying ships under the technical control of the Hydrographer. AGS 50 and 30, respectively. Launch dates above. Built by Lake Washington Shipyard and Associated Shipbuilding, respectively.

Gunnery Notes

Guns were removed in 1957.



MAURY — *United States Navy, Official*

2 Ex-Attack Cargo Ship Type

MAURY (ex-*Renate*, 31 Jan. 1945) — **TANNER** (ex-*Pamina*, 5 Jan. 1945)

Displacement:	4,203 tons *standard* (6,500 tons *full load*)
Dimensions:	400 (*w.l.*), 426 (*o.a.*) × 58 × 17 (*max.*) feet
Guns:	8—40 mm. AA., 20 mm. AA
Machinery:	Westinghouse turbo-electric. 2 shafts. B.H.P.: 6,000=17 kts.
Boilers:	2 Wickes

General Notes

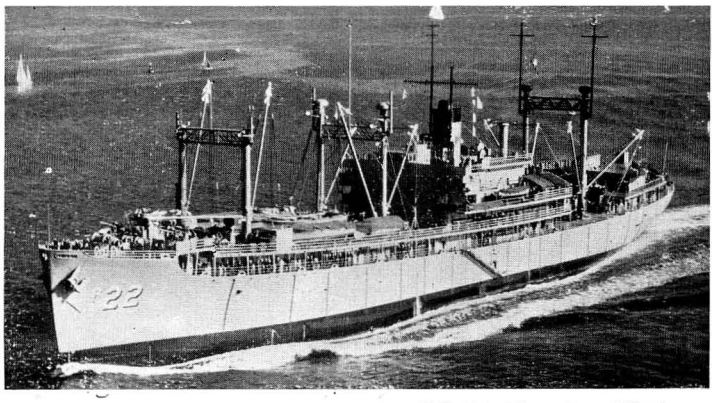
AGS 16 (ex-*AKA 36*) and AGS 15 (ex-*AKA 34*), respectively. Both built by Walsh-Kaiser Co. Inc., Providence, R.I. S 4-SE2-B1 type. Launch dates above. Converted in 1946.

Helicopter Notes

Helicopter flight deck on stern.

(There is also *Surveyor*, see photograph in the 1961-62 edition, U.S. Coast and Geodetic Survey, not a naval ship).

REPAIR SHIPS (AR)



KLONDIKE — 1962, *United States Navy, Official*

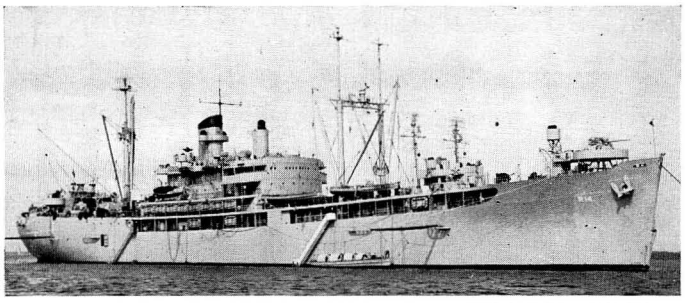
1 "Arcadia" Class

KLONDIKE (12 Aug. 1944)

Displacement:	8,165 tons *standard* (16,635 tons *full load*)
Dimensions:	465 (*w.l.*), 492 (*o.a.*) × 69½ × 27¼ feet
Guns:	1—5 inch, 4—3 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 18·4 kts.
Boilers:	2 Babcock & Wilcox
Complement:	826

Notes

Sister ship of "Arcadia" class destroyer tenders (see previous page), reclassified as a repair ship on 20 Feb. 1960 and designation changed from AD 22 to AR 22.



CADMUS — 1956, *U.S. Navy Official*

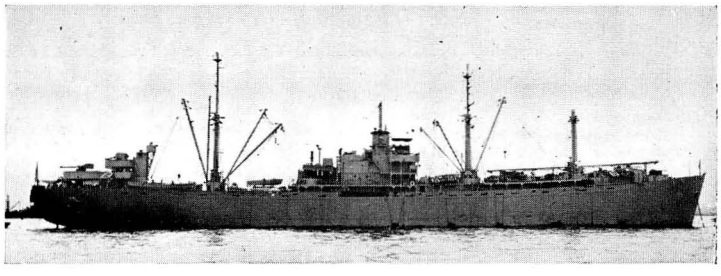
2 "Amphion" Class

AMPHION (15 May 1945) — **CADMUS** (5 Aug. 1945)

Displacement:	7,826 tons *standard* (16,900 tons *full load*)
Dimensions:	456 (*w.l.*), 492 (*o.a.*) × 70 × 27½ feet
Guns:	2—5 inch, 8—40 mm. AA.
Machinery:	Westinghouse turbines. S.H.P.: 8,500 = 17 kts.
Boilers:	2 Foster-Wheeler
Complement:	921

Notes

Nos. AR 13, 14. Built by Tampa Shipbuilding Co. Launch dates above. C 3 cargo type. *Deucalion* and *Mars*, of this type, cancelled.



CHOURRE — *United States Navy, Official*

7 "EC 2" Type

CEBU (ex-*Francis P. Duffy*, 18 Oct. 1943)
MAUI (ex-*Leyte*, 18 Feb. 1944)
MONA ISLAND (13 May 1943)
OAHU (ex-*Caleb C. Wheeler*, 9 Sep. 1944)
PALAWAN (12 Aug. 1944)
TUTUILA (ex-*Arthur P. Gorman*, 12 Sep. 1943)
WEBSTER (ex-*Masbate*, 5 Aug. 1944)

Displacement:	5, 766 tons *standard* (14,350 tons *full load*)
Dimensions:	416 (*w.l.*), 441½ (*o.a.*) × 57 × 23 (*mean*) feet
Machinery:	Triple expansion. I.H.P.: 2,500 = 12·5 kts.
Boilers:	2 Babcock & Wilcox

Notes

Liberty ships. Built by Bethlehem Steel Co., Fairfield Yard, Baltimore, Md. *Webster* (Aircraft Repair Ship), ARV 2; others are internal Combustion Engine Repair Ships, ARG 6, 8, 9, 5, 10, 4 respectively. *Hooper Island*, ARG 17 was decommissioned in July 1959 and disposed of, *Kermit Roosevelt* was stricken on 1 Jan. 1960, and *Luzon*, ARG 2, disposed of in 1960. *Xanthus* was stricken in 1960. *Chourre*, ARV 1, *Dionysus*, AR 21, *Culebra Island*, ARG 7, *Laertes*, AR 20, *Mindanao*, ARG 3, and *Samar*, ARG 11, were stricken on 1 Sep. 1961. *Cebu*, ARG 6, *Mona Island*, ARG 9, and *Webster*, ARV 2, will probably be disposed of in the near future.

4 "Vulcan" Class

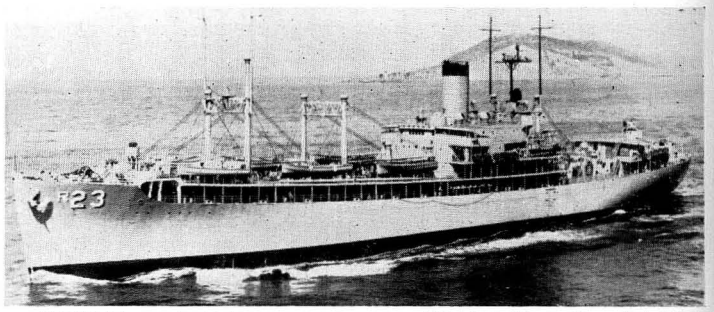
AJAX (22 Aug. 1942)
HECTOR (11 Nov. 1942)
JASON (3 Apr. 1943)
VULCAN (14 Dec. 1940

Displacement:	9,140 tons *standard* (16,200 tons *full load*)
Dimensions:	520 (*w.l.*), 529½ (*o.a.*) × 73½ × 23½ feet
Guns:	4—5 inch, 8—40 mm. AA.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 11,000 = 19·2 kts.
Boilers:	4 Babcock & Wilcox 3-drum
Complement:	1,297 (war)

Notes

Vulcan built by New York S.B. Corpn. under 1939 Program. Others by Los Angeles S.B. & D.D. Corpn., under 1940 Program. All carry a most elaborate equipment of machine tools to undertake repairs of every description. *Jason*, formerly ARH 1, rated as heavy hull repair ship, was reclassified AR 8 on 9 Sep. 1957. Numbered AR 6, 7, 8, 5.

Repair Ships—*continued*



MARKAB (as repair ship) — 1961, *United States Navy. Official*

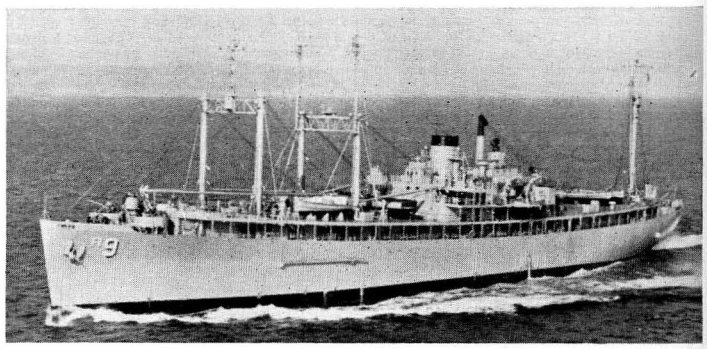
1 "Hamul" Class

MARKAB (ex-*Mormacpenn*, 21 Dec. 1940)

Displacement:	8,560 tons *standard* (14,800 tons *full load*)
Dimensions:	465 (*pp.*) 492½ (*o.a.*) × 69¾ × 24¾ feet
Guns:	1—5 inch, 4—3 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 18·4 kts.
Boilers:	2 Foster-Wheeler

Notes

Sister ship of *Hamul*, see destroyer tenders on previous page, reclassified as a repair ship on 15 Apr. 1960 and designation changed from AD 21 to AR 23.



DELTA (as recommissioned) — 1961. *United States Navy. Official*

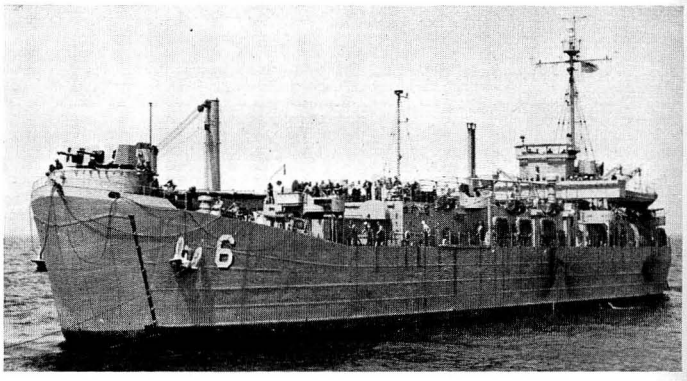
2 "Delta" Class

BRIAREUS (ex-*Hawaiian Planter*) — **DELTA** (ex-*Hawaiian Packer*

Displacement:	8,975 tons *standard* (14,500 tons *full load*)
Dimensions:	465½ (*pp.*), 490½ (*o.a.*) × 69½ × 24¼ feet
Guns:	1—5 inch, 4—3 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 17 kts.
Boilers:	2 Foster-Wheeler and 2 Babcock & Wilcox, respectively

Notes

Both launched in 1941. Nos. AR 12 and AR 9. C-3 type. *Braireus* is out of commission, in reserve. *Delta* was recommissioned on 31 Oct. 1959, replacing *Kermit Roosevelt*.



MEGARA — 1960, *United States Navy, Official*

20 Ex-LST Type

ACHELOUS (ex-*LST* 10)	ARL 1	**INDRA** (ex-*LST* 1147)	ARL 37
AMYCUS (ex-*LST* 489)	ARL 2	**KRISHNA** (ex-*LST* 1149)	ARL 38
ASKARI (ex-*LST* 1131)	ARL 30	**MEGARA** (ex-*LST* 1095)	ARVA 6
ATLAS (ex-*LST* 231)	ARL 7	**MIDAS** (ex-*LST* 524)	ARB 5
AVENTINUS (ex-*LST* 1092)	ARVE 3	**PANDEMUS** (ex-*LST* 650)	ARL 18
BELLEROPHON (ex-*LST* 1132)	ARL 31	**SARPEDON** (ex-*LST* 956)	ARB 7
CHLORIS (ex-*LST* 1094)	ARVE 4	**SATYR** (ex-*LST* 852)	ARL 23
EGERIA (ex-*LST* 136)	ARL 8	**SPHINX** (ex-*LST* 963)	ARL 24
ENDYMION (ex-*LST* 513)	ARL 9	**TELEMON** (ex-*LST* 957)	ARB 8
FABIUS (ex-*LST* 1093)	ARVA 5	**ZEUS** (ex-*LST* 132)	ARB 4

Displacement:	1,625 tons *light*, 3,960 tons *trials* (4,100 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11 feet
Guns:	8—40 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,800 = 11·6 kts.

General Notes

All launched in 1942-45. Four types: rated as Repair Ships for Battle Damage (ARB) for Landing Craft (ARL), Aircraft Repair Ships for Aircraft Engines (ARVE), and Air-frames (ARVA). Complement 251 to 286.

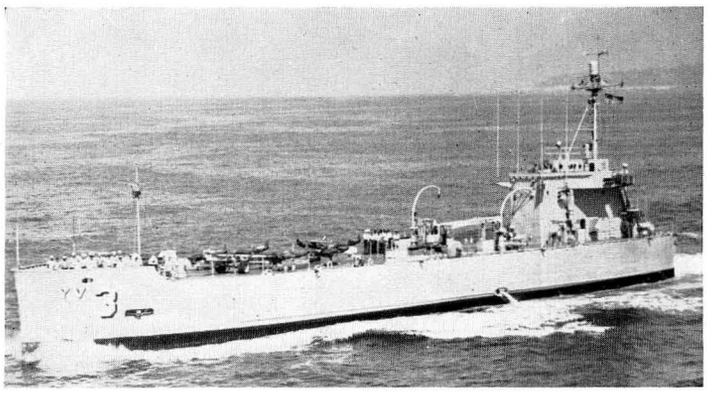
Transfer Notes

Agenor (ex-LST 490) ARL 3, was ceded to France 2 Mar. 1951. *Patrolcus* (ARL 19, ex-LST 955), was transferred to Turkey in 1952. *Minotaur*, ARL 15 (ex-LST 645), was loaned to Korea on 3 Oct. 1955. *Romulus*, ARL 22, was transferred to the Philippines in 1961. *Diomedes*, ARB 11, and *Ulysses*, ARB 9, were transferred to West Germany in June 1961, *Gordius*, ARL 36, was transferred to Iran in Sept. 1961. *Helios*, ARB 12, was loaned to Brazil in Jan. 1962. *Quirinus*, ARL 39 (ex-*LST* 1151) was loaned to Venezuela in June 1962.

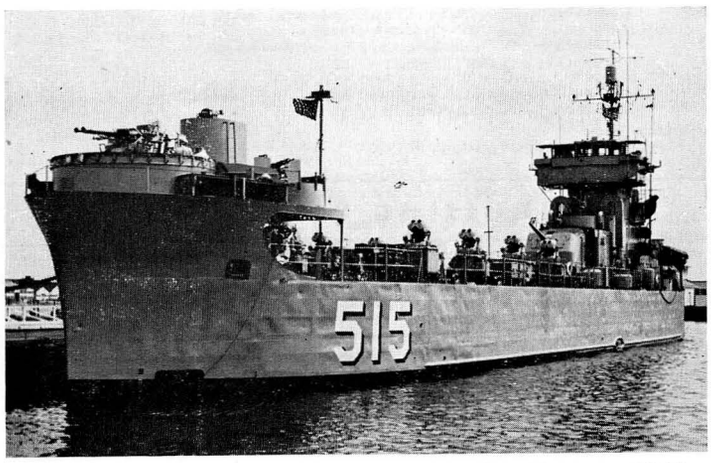
Recent Disposals

Demeter, ARB 10 (ex-LST 1121), was stricken from the "List of Naval Vessels" on 1 Mar. 1959, *Adonis*, ARL 4, *Daedalus*, ARL 35, *Minos*, ARL 14, *Pentheus*, ARL 20, and *Proserpine*, ARL 21, were stricken on 1 Jan. 1960, and *Crean*, ARL 11, *Menelaus*, ARL 13, *Myrmidon*, ARL 16, and *Numitor*, ARL 17, at the end of 1960. *Stentor*, ARL 26 and *Typhoon*, ARL 28, were stricken in 1960. *Amphitrite*, ARL 29, *Aristaeus*, ARB 1, *Chimaera*, ARL 33, *Coronis*, ARL 10, *Oceanus*, ARB 2, *Phaon*, ARB 3, and *Poseidon*, ARL 12, were stricken on 1 July, 1961.

MEDIUM LANDING SHIPS (ROCKET)



TARGETEER (as Aircraft Control Craft) see col. 1 1961, *United States Navy, Official*



OWYHEE RIVER *United States Navy, Official*

12 LSMR and 1 YV. 401-412, 501-536 Series

LSMR	LSMR
401 BIG BLACK RIVER	**513 LARAMIE RIVER**
405 BROADKILL RIVER	**515 OWYHEE RIVER**
409 CLARION RIVER	**522 RED RIVER**
412 DES PLAINES RIVER	**525 ST. FRANCIS RIVER**
501 ELK RIVER	**531 SMOKY HILL RIVER**
YV 3 TARGETEER (ex-*Gunnison River*, *LSMR* 508)	**536 WHITE RIVER**
512 LAMOILLE RIVER	

Displacement:	994 tons *attack* (1,084 tons *full load*)
Dimensions:	LMSR 401-412: 206¼ (*o.a.*), 204½ (*w.l.*) × 34½ × 7¼ feet LMSR 501-536: 203½ (*o.a.*), 197¼ (*w.l.*) × 34½ × 7⅛ feet
Guns:	1—5 inch, 4—4·2 inch mortars, 4—40 mm. AA., 8—20 mm. AA., 10—5 inch rocket projectors
Machinery:	General Motors diesel. 2 shafts. B.H.P.: 2,800 = 12·6 kts.
Complement:	138

General Notes

Modified LSMs. The ten automatic rocket launchers are continuously fed, each firing thirty spin-stabilised 5-inch rockets per minute, a barrage of 300 per clip. All LSMRs were named on 1 Oct. 1955. All out of commission.

Reclassification Notes

Gunnison River, LSMR 508, was reclassified as a Drone Aircraft Catapult Control Craft, YV 3, on 9 May 1960, and will replace YV 1. She was renamed *Targeteer* on 26 June 1960.

Photograph Notes

A larger port bow view of *Owyhee River* appears in the 1959-60 edition, a larger starboard bow oblique aerial view of *Blackstone River* in the 1957-58 edition, a larger starboard broadside surface view of *St. Joseph River* in the 1953-54 to 1959-60 editions, a larger port broadside surface view of LSM 297 in the 1957-58 and 1958-59 editions, and a larger port bow oblique aerial view of LSM 458 in the 1952-53 to 1957-58 editions.

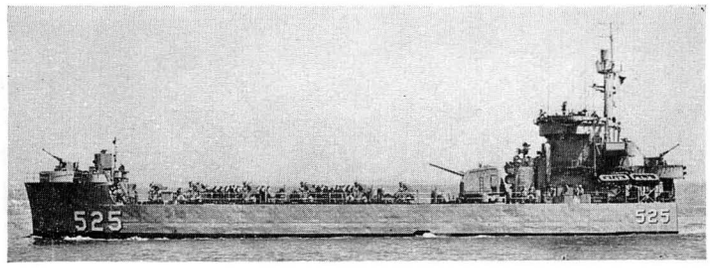
Transfer Notes

Smyrna River, LSMR 532, and *Thames River*, LSMR 534, were transferred to the West German Navy on 5 Sep. 1958. *St. Joseph River*, LSMR 527, was transferred to the Korean Navy in 1960.

Recent Disposals

Big Horn River, LSMR 402, *Blackstone River*, LSMR 403, *Black Warrior River*, LSMR 404, *Chariton River*, LSMR 407, *Charles River*, LSMR 408, *Escalante River*, LSMR 502, *Flambeau River*, LSMR 503, *Grand River*, LSMR 505, *Green River*, LSMR 506, *Greenbrier River*, LSMR 507, *Holston River*, LSMR 509, *Pearl River*, LSMR 516, *Pit River*, LSMR 518, *Powder River*, LSMR 519, *Rainy River*, LSMR 521, *St. Croix River*, LSMR 524, *St. Johns River*, LSMR 526, *St. Mary's River*, LSMR 528, *Salmon Falls River*, LSMR 530, *Snake River*, LSMR 533, and *Trinity River*, LSMR 535, were stricken from the Navy List in 1959. *Canadian River*, LSMR 406, *Clark Fork River*, LSMR 410, *Cumberland River*, LSMR 411, *Gila River*, LSMR 504, *James River*, LSMR 510, *John Day River*, LSMR 511, *Maurice River*, LSMR 514, *Pee Dee River*, LSMR 517, *Raccoon River*, LSMR 520, *Republican River*, LSMR 523, and *St. Regis River*, LSMR 529, were stricken on 1 Feb. 1960.

Medium Landing Ships (Rocket)—*continued*



ST. FRANCIS RIVER 1960, *United States Navy, Official*

MEDIUM LANDING SHIPS (LSM)



KODIAK 1960, *United States Navy, Official*

3 LSM 1-558 Series

HUNTING (EAG 398, ex-LSM 398) **LSM 335** (USNS) **LSM 161 KODIAK**

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8⅓ feet
Guns:	2—40 mm. AA. (LSM 335 unarmed)
Machinery:	Diesel direct drive. 2 shafts. B.H.P.: 2,800 = 12·5 kts.
Complement:	59

General Notes

Two in service, plus one other converted for special purposes. Can carry 5 medium tanks. Some are fitted with Kirsten cycloidal propellers, enabling ships to turn 360 degrees and remain in same position. LSM 335 is assigned to MSTS. LSM 161, 175, 373 and 540 were named on 14 Oct. 1959.

Reclassification Notes

LSM 445 and LSM 446 were reclassified as Drone Aircraft Catapult Control Vessels and redesignated YV1 and YV2 on 30 Aug. 1954 and renamed *Catapalt* and *Launcher*, respectively respectively, on 1 June 1957. *Catapult* decommissioned in 1960 and was discarded with *Launcher*. See *Recent Disposals* below.

Experimental Notes

LSM 398 was reclassified as EAG 398 in Dec. 1956 and named *Hunting* on 13 July 1957 LSM 444 was transferred to the Atomic Energy Commission on an indefinite loan basi in 1957 and subsequently named *Aloto*. (She was returned to the U.S. Navy in 1960 an loaned to Chile.)

Photograph Notes

A port bow oblique aerial view of *Catapult*, as converted and showing radar masts, appears in the 1960-61 edition. A larger port quarter oblique aerial view of *Lakeland*, LSM 373 appears in the 1959-60 edition, a larger port broadside surface view of LSM 297 in the 1957-58 and 1958-59 editions, and a larger port bow oblique aerial view of LSM 458 in the 1952-53 to 1957-58 editions.

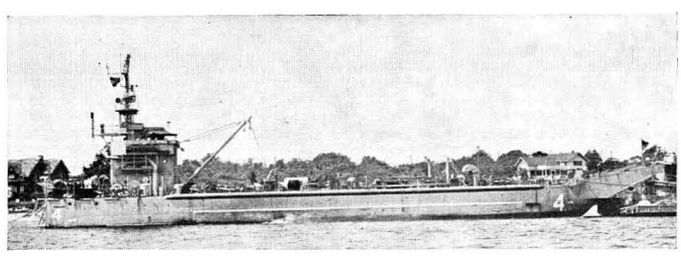
Transfer Notes

LSM 500 was transferred to Denmark on 15 May, 1953. LSMs 17, 19, 30, 54, 57, 84, 96, 268, 316, 419, 462, and 546 were loaned to Korea in 1956. LSM 491, LSM 537, LSM 553, and LSM 558 were transferred to West Germany on 15 Aug. 1959 (first two) and 5 Sep. 1958 (other two). LSM 472 and LSM 474 were transferred to Nationalist China at Seattle on 3 Feb. 1959. LSM 539 and LSM 555 were sold to Ecuador in 1959. LSM 444, *Aloto*, was loaned to Chile in 1960, LSM 236 was transferred to the Philippines on 15 Sep. 1960. LSM 483 was transferred to the Dominican Republic in 1960. *Oceanside*, LSM 175 and LSM 313 were transferred to Viet Nam in 1961. LSM 320 and LSM 463 were transferred to the Philippines on 17 Mar.1961. LSM 469 was transferred to Thailand in 1962. LSM 362 was transferred to Taiwan China in May 1962.

Recent Disposals

All LSMs were stricken from the Navy List in 1957 except 13 LSMs and the two YVs; but LSM 455, 491, 533, 537, 541, 557 and 558 were stricken in 1958-59, and *Lakeland*, LSM 373, and *Raritan*, LSM 540, in 1960. *Catapult*, YV 1, ex-LSM 445, and *Launcher*, YV 2, ex-LSM 446, were stricken in 1960.

SALVAGE LIFTING VESSELS (ARSD)



WINDLASS *Added* 1957, *Ted Stone*

4 Ex-LSM Type

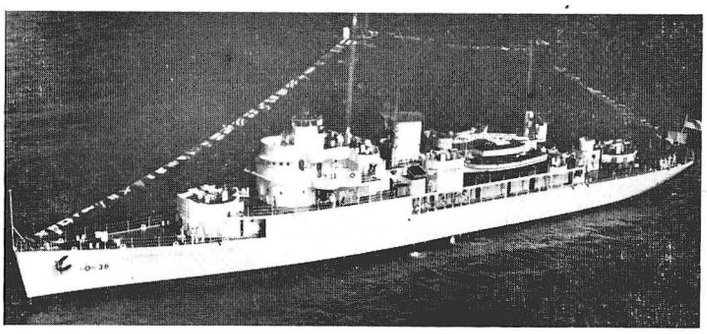
GYPSY (ex-*LSM* 549) **SALVAGER** (ex-*LSM* 551)
MENDER (ex-*LSM* 550) **WINDLASS** (ex-*LSM* 552)

Displacement:	740 tons *standard* (1,095 tons *full load*)
Dimensions:	224¼ × 34 × 7 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 2,800 = 13 kts.

Notes

ARSD 1-4. Used as diving tenders. All launched 7 Dec 1945. *Gypsy* and *Mender*, out of commission, in reserve.

SEAPLANE TENDERS (AVP)



DUXBURY BAY — *Added 1960, courtesy "Our Navy"*

5 "Barnegat" Class

CORSON **GREENWICH BAY** **SUISUN**
DUXBURY BAY **VALCOUR**

Displacement:	1,766 tons *standard* (2,800 tons *full load*)
Dimensions:	300 (*w.l.*), 310¾ (*o.a.*) × 41½ × 13½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 5—40 mm. AA. (but guns vary
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 6,080 = 18·2 kts.
Complement:	215

General Notes
Officially rated as Seaplane Tenders, Small. *Greenwich Bay*, *Duxbury Bay* and *Valcour* rotate as COMID EAST Force Flagships. *Rehoboth* and *San Pablo* were fitted for oceanographical surveying. Other ships of this class have been adapted for various duties.

Gunnery Notes
Original main armament of 4—5 inch was severely reduced to save top weight. Stern armament varies: *Suisun* none on stern.

Transfer Notes
Oyster Bay, former Motor Torpedo Boat Tender (AVP 28, ex-AGP 6); recommissioned at San Francisco in 1957 and was transferred to Italy under MDAP on 23 Oct. 1957, being renamed *Pietro Cavezzale*.
Gardiners Bay, AVP 39, was transferred to the Norwegian Navy on 17 May 1958 and renamed *Haakon VII*, *Orca*, AVP 49, was transferred to Ethiopia at the end of 1961 and renamed *Ethiopia*. Another was transferred to Greece.

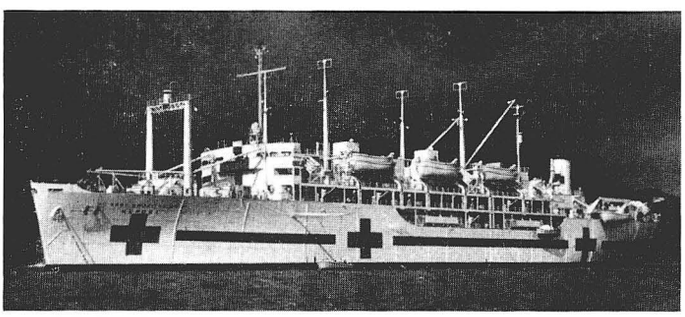
Weather Ship Notes
Abescon, *Barataria*, *Bering Strait*, *Casco*, *Castle Rock*, *Chincoteague*, *Cook Inlet*, *Coos Bay*, *Half Moon*, *Humboldt*, *Mackinac*, *Maragorda*, *Rockaway*, *Unimak*, *Yakutat*, were lent to the U.S. Coast Guard for duty as Weather Ships.

Reclassification Notes
San Carlos, AVP 51, was reclassified as an Oceanographical Research Vessel and renamed *Josiah Willard Gibbs*, AGOR 1, on 15 Dec. 1958 (see under Surveying Ships).

Recent Disposals
Barnegat, AVP 10, was stricken from the Navy List on 23 May 1958. *Floyds Bay*, AVP 40, was stricken on 1 Mar. 1960, *Onslow*, AVP 48, *Shelikof*, AVP 52, and *Timbalier*, AVP 54, were disposed of in 1960.

No.	*Name*	*Builders*	*Launched*
AVP 37	*Corson*	Lake Washington Shipyard, Houghton, Wash.	15 July 1944
AVP 38	*Duxbury Bay*		2 Oct. 1944
AVP 41	*Greenwich Bay*		18 Mar. 1945
AVP 53	*Suisun*		14 Mar. 1943
AVP 55	*Valcour*		5 June 1943

HOSPITAL SHIPS (AH)



REPOSE — *Lieut. A. Sugden, R.N.*

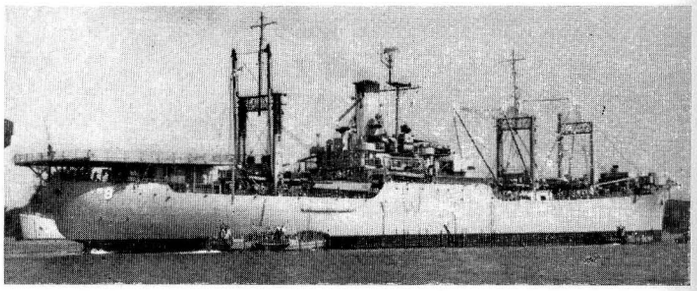
2 "Haven" Type

HAVEN (ex-*Marine Hawk*, 24 June 1944) **REPOSE** (ex-*Marine Beaver*, 8 Aug. 1994)

Displacement:	11,141 tons *standard* (15,400 tons *full load*)
Dimensions:	496 (*w.l.*), 520 (*o.a.*) × 71½ × 24 (*max.*) feet
Machinery:	General Electric geared turbines. S.H.P.: 9,000 = 18·3 kts.
Boilers:	2 Babcock & Wilcox
Complement:	568-574

Notes
Both built by the Sun S.B. & D.D. Maritime Commission. C 4-S-B2 Type. Beds for 802 patients. Air conditioned throughout. First commissioned on 5 May and 26 May, 1945, respectively. Nos. AH 12 and AH 16, respectively. *Benevolence* sank after collision with freighter off San Francisco in Aug. 1950. *Consolation*, *Haven* and *Repose* have a flight deck aft (square red cross landing platform) for the reception and air evacuation of wounded by helicopter. Green stripe removed from all hospital ships in 1953. *Haven* is in service in reserve at Long Beach, California. Others are out of commission in reserve except *Consolation* which has been chartered to a private group, operated by American President Lines, as a floating laboratory and medical school in South-East Asia in 1961. She was renamed *Hope* by the People to People Health Foundation Inc. The U.S. Navy signed the charter on 16 Mar. 1960. The $2,00,000 overhaul was undertaken by the Puget Sound Bridge and Drydock Company in 1960. *Sanctuary*, AH 17, and *Tranquility*, AH 14, were stricken from the List of Naval Vessels and transferred to the Maritime Administration Reserve Fleet in 1961. *Repose*, AH 16, will probably be disposed of in the near future.

AVIATION SUPPLY SHIP (AVS)



JUPITER — 1962, *Hiroyuki Otani*

1 Ex-AK Type

JUPITER (ex-*Santa Catalina*, ex-*Flying Cloud*)

Displacement:	6,050 tons *light* (13,860 tons *full load*)
Dimensions:	459 (*o.a.*) × 63 × 26½ (*max.*) feet
Guns:	1—5 inch, 4—3 inch
Machinery:	Turbine. S.H.P.: 6,000 = 16·5 kts.

General Notes
Built by Federal Shipbuilding & Dry Dock, Kearny, N.J. Launched on 30 Sep. 1939. No. AVS 8 (ex-AK 43). (C2-Cargo) type.

Helicopter Notes
Fitted with a helicopter platform in 1958.

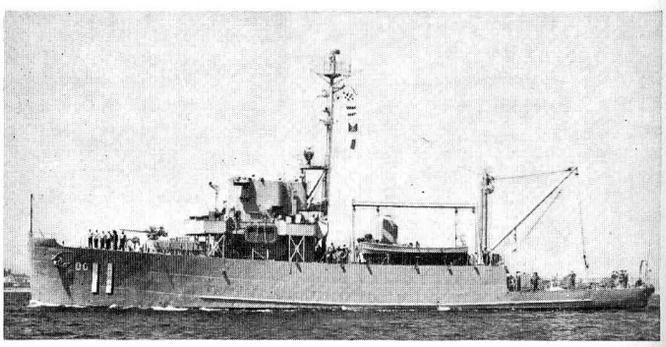
DEGAUSSING VESSELS (ADG)

1 Ex-Fleet Minesweeper Type

ADG 383 SURFBIRD (ex-*MSF* 383)

Displacement:	890 tons *standard* (1,250 tons *full load*)
Dimensions:	215 (*w.l.*), 221½ (*o.a.*) × 32½ × 10¾ (*max.*) feet
Machinery:	Diesel, with electric drive. 2 shafts. B.H.P.: 2,976 = 18 kts.
Complement:	105

Notes
Built by American Shipbuilding Co., Lorain, Ohio. Laid down on 15 Feb. 1944. Launched on 31 Aug. 1944. Completed (first commissioned) on 25 Nov. 1944. Former fleet minesweeper of the steel-hulled type, MSF (ex-AM), reclassified as ADG on 18 May 1957.



AMPERE — *Added 1957, Ted Stone*

3 Ex-Escort PCE Type

ADG
8 LODESTONE (ex-*PCE* 876, 30 Sep. 1943)
9 MAGNET (ex-*PCE* 879, 1 Sep. 1943)

ADG
10 DEPERM (ex-*PCE* 883, 14 Jan. 1944)

Displacement:	640 tons *standard* (900 tons *full load*)
Dimensions:	184½ (*o.a.*) × 33 × 9½ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 2,400 = 16 kts. (*Ampere*, 1,710 H.P. = 15 kts.

Notes
Launch dates above. Named on 1 Feb. 1955. All out of commission, in reserve. Sister ship *Ampere*, ADG 11 (ex-*Drake*, AM 359) was stricken from the Navy List on 1 July 1961.

PATROL VESSELS (YP)

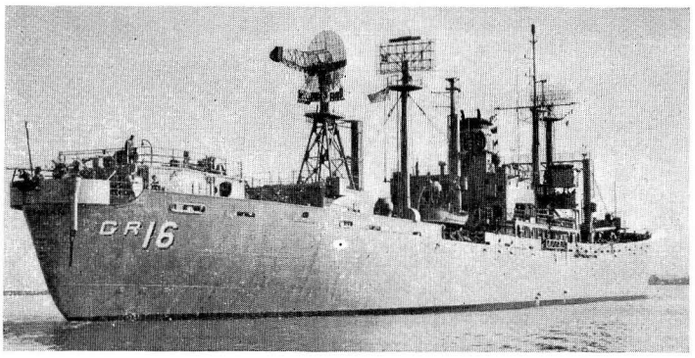
12 Navigation Training Type

YP 654 **YP 656** **YP 658** **YP 660** **YP 662** **YP 664**
YP 655 **YP 657** **YP 659** **YP 661** **YP 663** **YP 665**

Displacement:	56 tons *standard* (60 tons *full load*)
Dimensions:	80 (*o.a.*) × 17¾ × 5 (*max.*) feet
Machinery:	Diesel. 2 shafts. B.H.P.: 320

General Notes
YP 654-663 were built by Stephen Bros., Inc., Stockton, Calif., YP 654-658 under the 1956 Fiscal Year program and YP 659-663 under the 1957 Fiscal Year program. All laid down Jan.—Nov. 1957, launched July 1957-Mar. 1958, and completed Mar. 1958-Nov. 1958. YP 664 and 665 are being constructed by Elizabeth City Shipbuilders, Inc., Elizabeth City, North Carolina, under the 1959 Fiscal Year program. Floating classrooms for training midshipmen in seamanship and navigation at the United States Naval Academy. Wooden hull construction with aluminium deck houses. Surface search radar, gyro and magnetic compass, navigational plotting equipment. Potential patrol craft for national emergency. 20 other YP are on Navy Lists (YP 78-646). YP 647, 648, 649, 650 and 651 were stricken on 1 Mar. 1960.

RADAR PICKET SHIPS (AGR)



WATCHMAN

1960, *courtesy Mr. W. H. Davis*

16 "Liberty" Type

AGR		AGR	
1	**GUARDIAN** (ex-*YAG* 41)	9	**INVESTIGATOR** (ex-*Francis J. O'Gara*)
2	**LOOKOUT** (ex-*YAG* 42)	10	**OUTPOST** (ex-*Charles A. Draper*)
3	**SKYWATCHER** (ex-*YAG* 43)	11	**PROTECTOR** (ex-*Raymond Van Brogran*)
4	**SEARCHER** (ex-*YAG* 44)	12	**VIGIL** (ex-*Warren P. Marks*)
5	**SCANNER**	13	**INTERDICTOR** (ex-*Edwin H. Duff*)
6	**LOCATOR**	14	**INTERPRETER** (ex-*Dudley H. Thomas*)
7	**PICKET**	15	**TRACER** (ex-*Interrupter*, ex-*William J. Riddle*)
8	**INTERCEPTOR**	16	**WATCHMAN** (ex-*Vernon J. Wood*)

Displacement: 3,600 tons
Dimensions: 441 (*o.a.*) × 57 × 27 feet
Guns: 2—3 inch, 50 cal. AA.
Machinery: Triple expansion. I.H.P.: 2,500
Complement: 151 (13 officers and 138 ratings)

General Notes

Sixteen Liberty hull (EC2-S-C1) cargo vessels were converted into Ocean Radar Station Ships (YAGR). These radar picket vessels are a new conception in Navy shipbuilding plans. They will be employed primarily to provide radar coverage of U.S. seaward approaches as part of the continental air defense system and are the first ships to be specifically designed for this purpose. Elements of conversion include the installation of additional communications equipment, air and surface search radar, a combat information centre, improved berthing areas and additional recreation spaces. Four were ocean radar ships. YAGR 9-12, converted under the 1957 Naval Appropriations, Four were YAGR 13-16, converted from MCE-3142, MCE-2341, MCE-2340 and MCE-2443, respectively, under the Fiscal Year 1958 conversion program. *Interpreter* was converted at Philadelphia Naval Shipyard (started 26 Aug. 1957, commissioned 29 Sep., 1958, completed 16 Apr. 1958), *Interpreter* and *Interrupter* (both started 16 Sep. 1957, commissioned 1 Aug. and 16 Oct. 1958, completed 26 Sep. and 31 Oct. 1958) at Charleston Naval Shipyard, South Carolina, and YAGR 16 at Norfolk Naval Shipyard. *Interdictor* was commissioned on 7 Apr. 1958. *Watchman* was commissioned on 5 Jan. 1959. *Interrupter*, ARG 15, was renamed *Tracer* on 4 Sep. 1959.

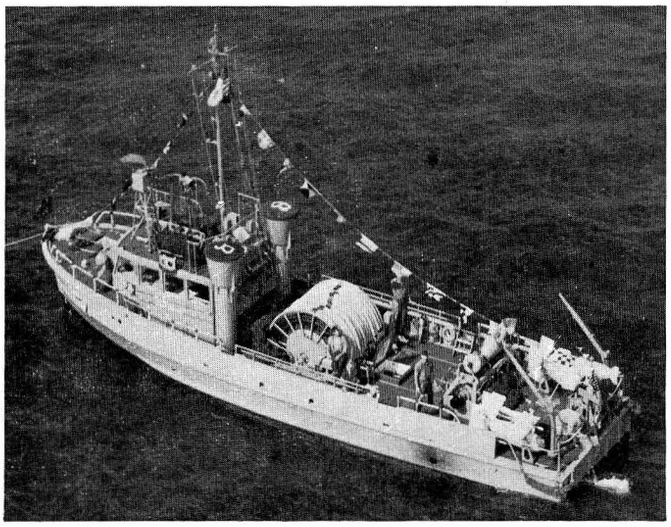
Reclassification Notes

On 28 Sep. 1958 all Ocean Radar Station Ships, YAGR, were reclassified Radar Picket Ships, AGR, with the same names and numbers.

Photograph Notes

Broadside view of *Guardian* in the 1957-58 to 1959-60 editions, and starboard bow oblique aerial view of *Lookout* in the 1957-58 edition.

MINESWEEPING BOATS (MSB)



MSB 8

1957, *courtesy "Our Navy"*

49 Shallow Draught Type

MSB	MSB	MSB	MSB	MSB	MSB	MSB	MSB
5	11	17	23	30	36	42	48
6	12	18	25	31	37	43	49
7	13	19	26	32	38	44	50
8	14	20	27	33	39	45	51
9	15	21	28	34	40	46	52
10	16	22	29	35	41	47	53
							54

Displacement: 30 tons *light* (42 tons *full load*)
Dimensions: 57½ × 15½ × 4 feet (MSB 29 80 (*o.a.*) feet
Machinery: Diesel engines. 2 shafts. B.H.P.: 600 = 10 kts.
Complement: 6 to 8

General Notes

MSB 5-54 have wooden hulls. Will be carried in parent ships to theatre of operations. All built in 1951 and 1952, except MSB 29, launched on 5 Oct. 1956.

Engineering Notes

MSB 5 was the first vessel built for the U.S. Navy with gas turbine engines (used to provide the power for the boat's generators. 48 MSBs are fitted with gas turbine generators. MSB 23, destroyed by fire while under construction 2 Feb. 1955, was rebuilt as a plastic hulled vessel and delivered in Aug. 1956. MSB 24 was never built.

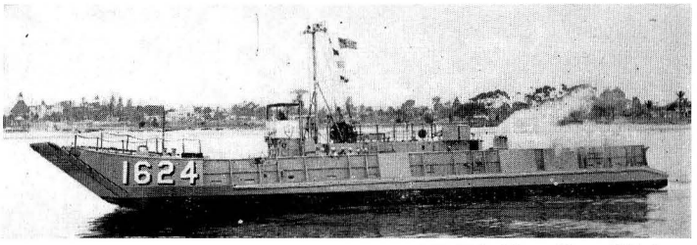
Class Notes

Class B: MSB 5-22, 25-28, 30-54; Class C: MSB 29 (see *Disposal Notes.*)

Disposal Notes

Of the four ex-Army MLMs built in 1946, which constituted Class A, MSB 1 and MSB 3 were stricken on 1 Nov. 1958, and MSB 2 and MSB 4 were transferred to Korea and Taiwan China, respectively, in Dec. 1961.

UTILITY LANDING CRAFT (LCU)



LCU 1624

1962, *United States Navy, Official*

15 "1610 Class" (LCU)

LCU 1610	**LCU 1613**	**LCU 1616**	**LCU 1619**	**LCU 1622**
LCU 1611	**LCU 1614**	**LCU 1617**	**LCU 1620**	**LCU 1623**
LCU 1612	**LCU 1615**	**LCU 1618**	**LCU 1621**	**LCU 1624**

Dimensions: Length: 135¼ feet (*o.a.*)
Machinery: Speed: 11 kts. (LCU 1620, 12 kts.). See *Engineering Notes*
Complement: 12

Notes

LCU 1610-1619 were authorised in the 1956 appropriations. These LCUs are longer than the older craft. LCU 1613-1619 were built by the Gunderson Bros. Engineering Corp., Portland, Oregon. (Contract awarded May 1957) and LCU 1610-1612 were built by the Christy Corp., Sturgeon Bay, Wisconsin. All laid down in Feb.-Dec. 1958 and launched in July 1958—Mar. 1959. They had LST-type bow doors, which have since been changed to a ramp as in the older type.

LCU 1622 was authorised under the 1957 budget. She has the same hull as the others of the 1610 class but is equipped with vertical axis propellers and ramp type bow doors. Built by Weaver Shipyards, Texas., she is a steel vessel, powered by diesel engines and equipped with Kort nozzles.

LCU 1623 and 1624 were built under the 1959 new construction program by Gunderson Bros. LCU 1620 and 1621 were built by Southern Shipbuilding Corporation, Slidell, Louisiana.

Engineering Notes

LCU 1621 is fitted with two right-angle drive propulsion units, port and starboard, which rotate through 360 degrees, providing thrust in any direction. The two units can be locked together or operated independently, and obviate the need for rudders and shafts. LCU 1620 is fitted with vertical-axis cycloidal propeller.

The LCU of the "1610" class, authorised under 1957 program, designed for a gas-turbine propulsion unit (an LCU has been fitted with a gas turbine fire pump) was not built.

2 "1608" Class (LCU)

LCU 1608 **LCU 1609**

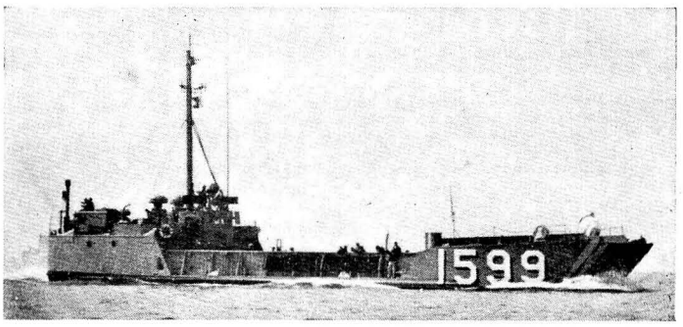
Displacement: 200 tons *light* (375 tons *full load*)
Dimensions: 115 × 34 × 6 feet
Machinery: 3 diesels. S.H.P.: 495
Fitted with Kort-Nozzle propellers

Note

These utility landing craft of a new design were authorised under the 1955 construction program. Development contract negotiated with the Bethlehem Steel Company, Staten Island. Laid down 25 Feb. 1957 and Mar. 1957, respectively, and completed in July 1957.

Reclassification Notes

All LCUs were reclassified from Service Craft to "Boats" in Nov. 1958.



LCU 1599 (Japanese built)

Added 1958, *Hajime Fukaya*

32 "1466" Series (ex-LCT)

LCU 1466	**LCU 1472**	**LCU 1481**	**LCU 1487**	**LCU 1494**
LCU 1467	**LCU 1473**	**LCU 1482**	**LCU 1488**	**LCU 1495**
LCU 1468	**LCU 1474**	**LCU 1483**	**LCU 1489**	**LCU 1496**
LCU 1469	**LCU 1475**	**LCU 1484**	**LCU 1490**	**LCU 1497**
LCU 1470	**LCU 1476**	**LCU 1485**	**LCU 1491**	**LCU 1498**
LCU 1471	**LCU 1477**	**LCU 1486**	**LCU 1492**	**LCU 1499**
			LCU 1493	**LCU 1500**

Displacement: 180 tons *light* (360 tons *full load*)
Dimensions: 115½ (*w.l.*), 119 (*o.a.*) × 34 × 6 feet
Guns: 2—20 mm.
Machinery: 3 diesels. 3 shafts. S.H.P.: 675

Notes

Announced contracts awarded 2 Nov. 1951. Basically the same as Second World War LCTs. Slightly longer and wider. Chief mission will still be that of putting tanks and their crews on to beaches. Designation was changed from LCT to LSU because of their many additional uses, and subsequently (1952) to LCU. Built to be transferred on LSTs and off-loaded into water from LST. Five units were transferred to other countries under MDAP. 1478 to Norway, 1479, 1480, 1501, 1502 to Indo-China. One (LCU 1503) was lost in Aug. 1953. LCU 1594-1607 were built as an off-shore procurement for the Military Aid Program (OSP/MAP).

LCT(6) Type

LCU 501-1465 SERIES (ex-*LSU*, ex-*LCT* (6))

Displacement: 143 to 160 tons *light* (309 to 320 tons *full load*)
Dimensions: 105 (*w.l.*), 119½ (*o.a.*) × 32⅔ × 5 (*max.*) feet
Guns: 2—20 mm.
Machinery: Gray Marine diesel. 3 shafts. B.H.P.: 675 = 10 kts.
Complement: 13

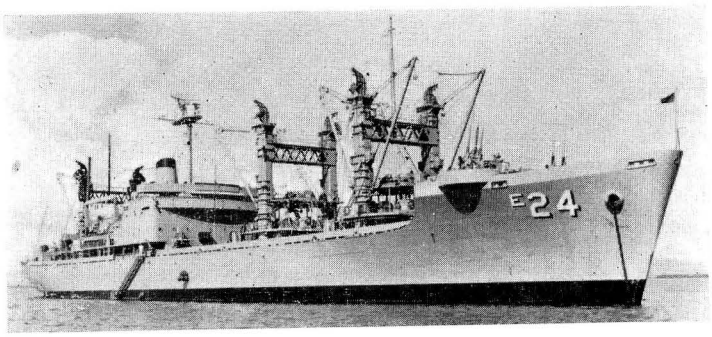
General Notes

72 of these LCUs are in service or reserve. Conversion of Nos. 1273, 1330, 1363, 1452, 1463, 1347 for Arctic service completed Mar. 1949. Formerly rated as Landing Ships Tank (Small). Re-designated LSUs late 1949. Reclassified LCUs 15 Apr. 1952. Can carry 4 tanks or 200 tons of cargo.

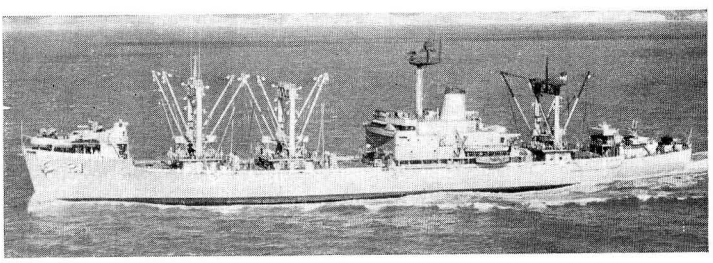
Disposal Notes

LCU 815 was sold in May 1956, LCU 676, 1288 and 1362 were disposed of in 1957. LCU 1460 was lost at sea in 1952. LCU 569, 767, 1258, 1447, 1453 and 1454 were stricken in 1957. LCU 638, 700, 779, 1174, 1225, 1271, 1278 were stricken in 1958. LCU 1212, 1244, 1367, 1429 were transferred to foreign countries under the Military Defence Assistance Program in 1959. LCU 1538 was sold in 1959 and LCU 1530 in 1960.

AMMUNITION SHIPS (AE)



PYRO 1962, *courtesy Mr. W. H. Davis*



SURIBACHI *Added 1960, Skyfotos*

5 "Suribachi" Class

AE
25 HALEAKALA (17 Feb. 1959)
22 MAUNA KEA (3 May 1956)
23 NITRO (25 June 1958)

AE
24 PYRO (5 Nov. 1958)
21 SURIBACHI (2 Nov. 1955)

Displacement:	7,470 tons *light*, 10,000 tons *standard* (17,400 tons *full load*)
Measurement:	7,500 tons *deadweight*
Dimensions:	488½ (*pp.*), 512 (*o.a.*) × 72 × 24 feet
Guns:	4—3 inch, 50 cal. AA. (twin mounts)
Machinery:	Steam turbines. 1 shaft. H.P. 16,000=21 kts.
Complement:	350

General Notes

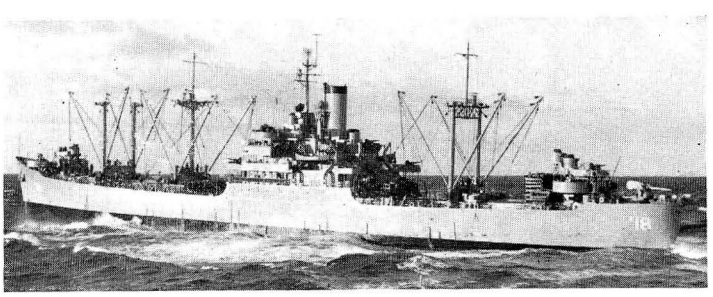
The construction of two new ammunition ships (A E) was authorised in 1954. Design contract was awarded to Bethlehem Steel Co., Quincy, Mass. Designed especially to meet the strenuous requirements of present day rapid replenishment at sea. Built from the hull up as Navy ships. Have elevators for internal handling of ammunition and explosives, the most up-to-date methods of stowage, air conditioning, redesigned crew quarters and most recent habitability improvements. Built by Bethlehem, Sparrows Point, Md., Shipyard. *Mauna Kea* was laid down on 16 May 1955, *Suribachi* was laid down on 31 Jan. 1955. Launch dates above. *Suribachi* was completed in Nov. 1956, *Mauna Kea* on 30 Mar. 1957. The 1956 ship-building program authorised the construction of *Nitro and Pyro*, laid down on 20 May and 21 Oct. 1957, respectively, and the 1957 program *Haleakala*, laid down on 10 Mar. 1958, all at the Bethlehem-Sparrows Point Shipyard, Inc., Baltimore, Md. *Nitro* was commissioned on 1 May 1959, *Pyro* on 24 July 1959, *Haleakala* on 3 Nov. 1959. Another to have been built under the 1959 program was cancelled. *Nitro* and *Pyro* are fitted with constant tension devices designed for rapid transfer of ammunition.

Conversion Notes

The two fast ammunition ship conversions in the 1963 Program are the first of the five ships of this class to be modernised for the rapid handling and transfer of missiles up to the size of "Talos." This conversion provides for three holds to be rigged for missile stowage; completely mechanised handling facilities to transfer missiles from stowage to transfer stations; and the installation of fast automatic shuttle transfer system. This modernisation will result in safer missile handling and a greatly reduced transfer time.

Photograph Notes

Another photograph of *Suribachi* appears in the 1957-58 edition (starboard broadside aerial view), and a starboard bow surface view of *Mauna Kea* in the 1958-59 to 1961-62 editions



PARAKUTIN *Added 1961, United States Navy, Official*

7 "Wrangell" Class

DIAMOND HEAD (3 Feb. 1945)
FIREDRAKE (ex-*Winged Racer*, 12 May 1944)
GREAT SITKIN (26 Jan. 1945)
MOUNT KATMAI (6 Jan. 1945)
PARICUTIN (30 Jan. 1945)
VESUVIUS (ex-*Gamecock*, 26 May 1944)
WRANGELL (14 Apr. 1944)

Displacement:	6,350 tons *light* (15,295 tons *full load*)
Dimensions:	435 (*w.l.*), 459½ (*o.a.*) × 63 × 28½ feet
Guns:	1—5 inch, 4—3 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 6,000=16·4 kts.
Complement:	267

Notes

Nos. A E 19, 14, 17, 16, 18, 15, 12, respectively. C2 type. A photograph of *Wrangell* appears in the 1946-47 to 1954-55 editions, and of *Mount Katmai* in the 1955-56 to 1960-61 editions.

1 "Sangay" Class

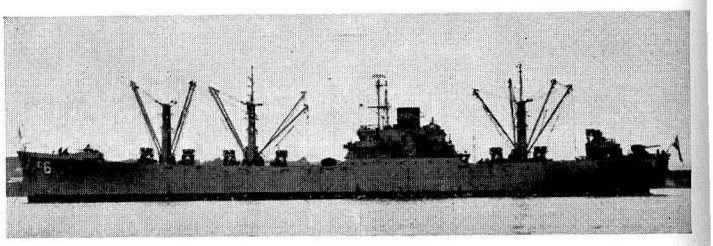
FOMALHAUT (ex-*Cape Lookout*, 25 Jan. 1941)

Displacement:	5,826 tons *light* (11,653 tons *full load*)
Dimensions:	390 (*w.l.*), 412½ (*o.a.*) × 60 × 23½ feet
Guns:	1—5 inch, 6—40 mm. AA.
Machinery:	Nordberg diesel. B.H.P.: 4,000=14·5 kts.
Complement:	308

Notes

Maritime Commission CI-A (Diesel) type. Former No. AK 22 redesignated No. A E 20. Built by Penn Shipyards, Beaumont, Texas. Launch date above. Out of commission, in reserve. A photograph of *Sangay* appears in the 1947-48 to 1957-58 editions. *Sangay* was disposed of in 1961, and *Fomalhaut* will probably be disposed of in the near future.

Ammunition Ships—*continued*



SHASTA 1958, *courtesy of Godfrey H. Walker, Esq.*

5 "Lassen" Class

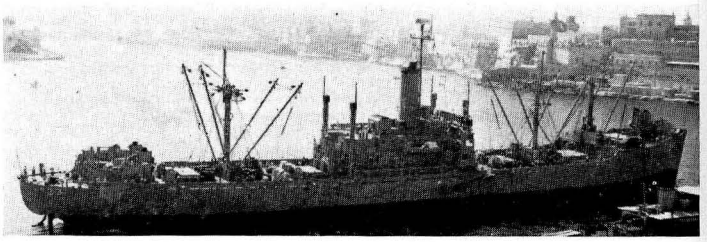
MAUNA LOA (14 Apr. 1943)
MAZAMA (15 Aug. 1943)
MOUNT BAKER (ex-*Kilauea*, ex-*Surprise*, 6 Aug. 1940)
RAINIER (ex-*Rainbow*, 1 Mar. 1941)
SHASTA (ex-*Comet*, 9 July 1941)

Displacement:	5,220 tons *light* (14,225 tons *full load*)
Dimensions:	435 (*w.l.*), 459 (*o.a.*) × 63 × 26½ feet
Guns:	1—5 inch, 4—3 inch, 4—40 mm. AA.
Machinery:	2 Nordberg diesels. B.H.P.: 6,000=15.3 kts.
Complement:	281

Notes

All built by Tampa S.B. Co. Nos. AE 8, 9, 4, 5, 6, respectively. Modified C2 type, converted by Navy. Carries 5,000 tons cargo. War loss: *Mount Hood*. A photograph of *Mazama* appears in the 1955-56 to 1957-58 editions. *Akutan*, AE 13, was disposed of in 1961. *Mazama* and *Mauna Loa* were reacquired and returned to the Navy in Sep. 1961 and recommissioned on 27 Nov. 1961. *Lassen*, AE 3, was stricken from the List of Naval Vessels in 1961 and transferred to the Maritime Administration.

GENERAL STORES ISSUE SHIPS (AKS)



ANTARES 1962, *A. and J. Pavia*

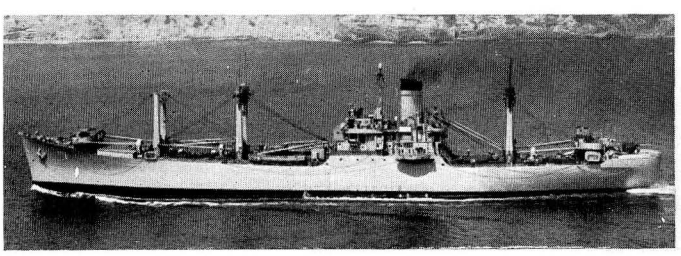
2 "Altair" Class

ALTAIR (ex-*Aberdeen Victory*) 20 Apr. 1944
ANTARES (ex-*Nampa Victory*)

Displacement:	4,420 tons *light* (15,580 tons *full load*)
Dimensions:	455¼ (*o.a.*), × 62 × 28½ (*max.*) feet
Guns:	8—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500=16·5 kts.

Notes

VC 2-AP 3 type. Laid down in 1944. *Altair*, AKS 32 (ex-AK 257) was reclassified as AKS in 1952. Now has a helicopter platform on the fantail. *Antares*, AKS 33 (ex-AK 258), see photograph in the 1958-59 to 1960-61 editions, was reclassified as AKS on 1 Apr. 1959.



CASTOR *Added 1957, Ted Stone*

2 "Castor" Class

CASTOR (ex-*Challenge*)
POLLUX (ex-*Nancy Lykes*)

Displacement:	6,365, and 6,335 tons *light*, respectively (13,860 to 14,400 tons *full load*). Cargo capacity: 5,400 tons
Dimensions:	435 (*pp.*), 459¼ (*o.a.*) × 63 × 26½ (*max.*) feet
Guns:	1—5 inch, 4—3 inch
Machinery:	Geared turbines. S.H.P.: 6,000=16·4 kts.
Boilers:	2 Babcock & Wilcox

General Notes

Nos. AKS 1 and AKS 4 (ex-AK 54), respectively. C2 Cargo and C2-F types. All built by Federal Shipbuilding & Dry Dock, Kearny, N.J., and launched 20 May 1939 and 1941, respectively. *Castor* completed a $400,000 internal conversion at San Francisco in 1956 for carrying combined "technical" and general stores.

Recent Disposals

Of this type *Mercury*, AKS 20 (ex-AK 42, ex-*Mormactern*, ex-*Lightning*) was stricken in 1960.

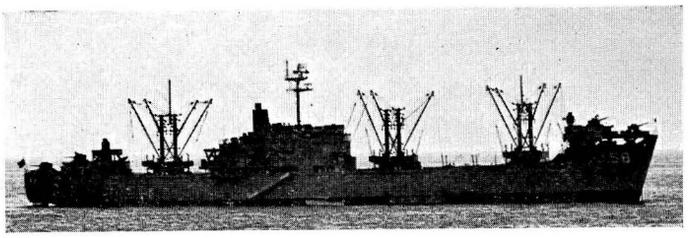
All five of the LST type, *Chimon*, AKS 31 (ex-AG 150, ex-LST 1102), *Colington*, AKS 29 (ex-AG 148, ex-LST 1085), *Electron*, AKS 27 (ex-AG 146, ex-LST 1070), *League Island*, AKS 30 (ex-AG 149, ex-LST 1097), and *Proton*, AKS 28 (ex-AG 147, ex-LST 1078) were stricken in 1960.

All six of the "Island" class, *Avery Island*, AKS 24, *Belle Isle*, AKS 21, *Coaster's Harbor*, AKS 22, *Cuttyhunk Island*, AKS 23, *Indian Island*, AKS 25, and *Kent Island*, AKS 26, were also stricken in 1960.

Cancellation Notes

The prototype General Stores Issue Ship planned by Bethlehem Steel Co., Quincy, was not authorised and has not been again requested. See particulars in the 1958-59 edition.

STORE SHIPS (AF)



RIGEL — 1958, *courtesy Captain Aldo Fraccaroli*

2 New Conversion

ASTERION (ex-*Arcadia Victory*) **PERSEUS** (ex-*Union Victory*)

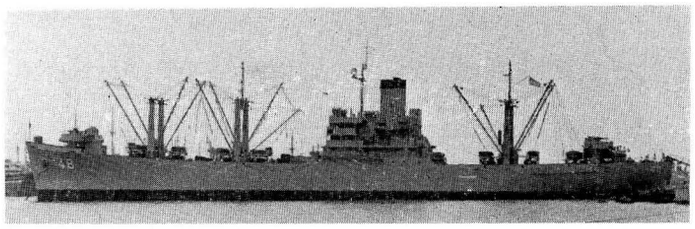
Notes
Victory ships (VC 2-S-AP 3 type). Acquired from the Maritime Administration in 1962 and converted at Portland, Oregon by Willamette Iron & Steel Co. under the 1962 Program. Unarmed with civilian crews, USNS, MSTS. Nos. T-AF 63 and 64, respectively.

2 " Rigel " Class

RIGEL (15 Mar. 1955) **VEGA** (26 Apr. 1955)

Displacement:	7,950 tons *light*, 15,540 tons *full load*
Measurement:	10,850 tons *gross*
Dimensions:	475 (*w.l.*), 502 (*o.a.*) × 72 × 43½ (depth) feet
Guns:	8—3 inch
Machinery:	Steam turbine. 1 shaft. S.H.P.: 12,500 = 18 kts.

Notes
Contract awarded to Ingall's Shipbuilding Co., Pascagoula, 13 Aug. 1953. R3-S-4A type. $12,440,000 each. Keels laid 15 Mar. 1954 and 24 May 1954, respectively. Launch dates above. *Rigel* commissioned in 1955. *Vega* 10 Nov. 1955. 360,000 cu. ft. of refrigerated space. These are the first AFs built since the Second World War with Navy designed hulls. Nos. AF 58 and AF 59, respectively.



ALSTEDE — 1962, *Ing. Augusto Nani*

6 " Alstede " Class

ALSTEDE (ex-*Ocean Chief*) **PICTOR** (ex-*Great Republic*)
ALUDRA (ex-*Matchless*) **PROCYON** (ex-*Flying Scud*)
BELLATRIX (ex-*Fleetwood*) **ZELIMA** (ex-*Golden Rocket*)

Displacement:	6,914 tons *light* (15,500 tons *full load*)
Dimensions:	459½ × 63 × 28 feet
Machinery:	Turbine. S.H.P.: 6,000 = 16 kts.
Complement:	17 officers, 275 men

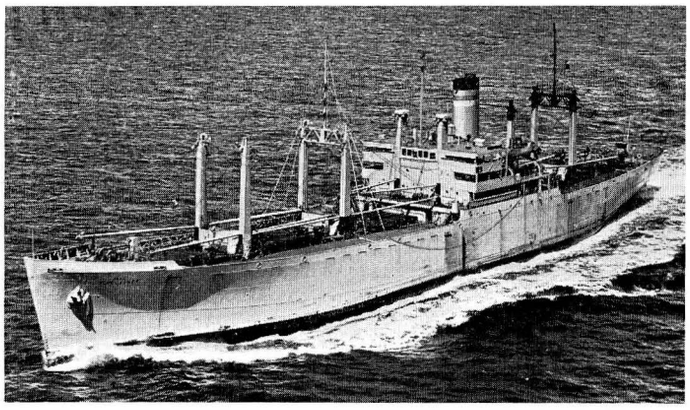
Notes
Nos. AF 48, AF 55, AF 62, AF 49, AF 61, and AF 54 respectively all built by Moore Dry Dock Co., and launched in 1945 and 1946. R2-S-BV design reefer type. *Aludra* acquired for conversion by Navy. *Pictor* was transferred from Maritime Administration to U.S. Navy. C2-S-B1 type similar to R2-S-BV1 design, except that R2s were built as reefers and C2s as cargo ships. Same type as " Eagle " class. *Bellatrix* and *Procyon* were acquired from the Maritime Administration and commissioned in Nov. 1961. C2-S-B1 type.

2 " Adria " Class

BONDIA (9 Nov. 1944) (U.S.N.S.) **LAURENTIA** (ex-*Wall* and *Crown*, 12 Dec. 1944) (U.S.N.S.)

Displacement:	3,139 tons *light* (7,435 tons *full load*)
Dimensions:	320 (*w.l.*), 338½ (*o.a.*) × 50 × 21 (*max.*) feet
Machinery:	Nordberg diesel. B.H.P.: 1,700 = 11.5 kts.

Notes
Launch dates above. Nos. AF 42 and AF 44, respectively. *Kerstin* and *Latona* were returned to Maritime Commission. 2,100 tons cargo. R1-M-AV 3 type. *Bondia* and *Laurentia* are assigned to Military Sea Transportation Service, unarmed. *Valentine* was transferred to the Maritime Administration by MSTS on 16 Apr. 1959. *Karin* and *Merapi* are in Maritime Administration custody but remain on the Navy List. *Adria*, *Arequipa*, *Corduba*, *Karin*, *Lioba*, *Malabar* and *Merapi* were stricken from the Navy List and transferred to the Maritime Administration Reserve Fleet in 1960-61. A photograph of *Lioba* appears in 1953-54 to 1957-58 editions.



BLUE JACKET — *Added 1959, Skyfotos*

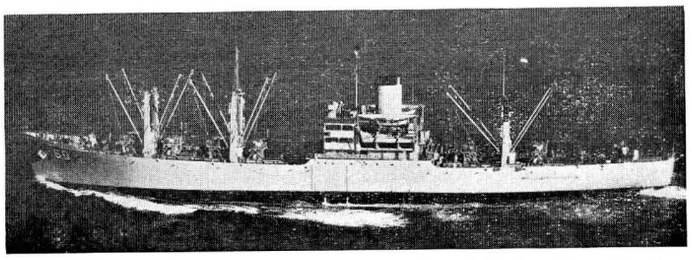
2 " Eagle " Class

BALD EAGLE **BLUE JACKET**

Displacement:	7,430 tons *light* (12,800 tons *full load*)
Dimensions:	459½ (*o.a.*) × 63 × 24 (*max.*) feet
Machinery:	Turbine. S.H.P.: 6,000 = 16.4 kts.

Notes
Both built by Moore Dry Dock Co. Launched in 1942. Nos. T-AF 50 and T-AF 51, respectively. Military Sea Transportation Service Ships designated USNS. MC Type C2-S-B1. Sister ship *Golden Eagle* was converted, renamed *Areturus* and commissioned on 18 Nov. 1961 (see next column).

Store Ships—*continued*



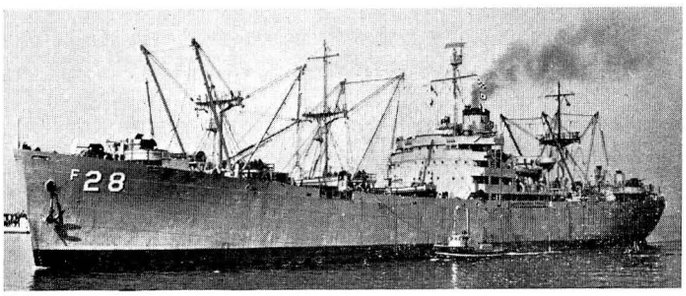
SIRIUS — 1959, *United States Navy, Official*

2 " Sirius " Class

ARCTURUS (ex-*Golden Eagle*) **SIRIUS** (ex-SS *Trade Wind*)

Displacement:	7,430 tons *light* (12,800 tons *full load*)
Dimensions:	459½ (*o.a.*) × 63 × 24 feet
Machinery:	Geared turbines. S.H.P.: 6,000 = 16.4 kts.

Notes
C2-S-B1 refrigerator ships. *Sirius* was launched and completed in 1943, acquired by Navy 1956 and renamed. AF 60. Commissioned 12 Jan. 1957. She replaced *Polaris*, which was removed from the Navy List and transferred to the Maritime Administration on 12 Jan. 1957. *Arcturus* was commissioned on 11 Nov. 1961.



HYADES — *Added 1959, Ing. Augusto Nani*

2 " Hyades " Class

GRAFFIAS (ex-*Topa Topa*) **HYADES** (ex-*Iberville*)

Displacement:	6,313 tons *light* (15,300 tons *full load*)
Dimensions:	445 (*pp.*), 463¾ (*o.a.*) × 63 × 28 feet
Guns:	1—5 inch, 4—3 inch
Machinery:	Geared turbines. S.H.P.: 6,000 = 15.5 kts.
Boilers:	2 Babcock & Wilcox
Complement:	252

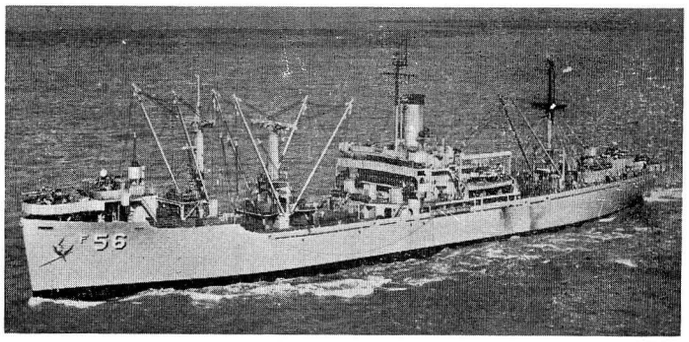
Notes
AF 29 and 28. Launched 12 Dec. 1943 and 12 June 1942, respectively. Cargo capacity 5,300 tons. Another photograph of *Hyades* appears in the 1954-55 to 1957-58 editions.

1 " Aldebaran " Class

ALDEBARAN (ex-*Staghound*)

Displacement:	6,501 tons *light* (13,860 tons *full load*)
Dimensions:	435 (*w.l.*), 459¼ (*o.a.*) × 63 × 25¾ (*max.*) feet
Guns:	4—3 inch
Machinery:	Geared turbines. S.H.P.: 6,000 = 16.4 kts.
Boilers:	2 Babcock & Wilcox

Notes
Launched 21 June 1939. No. AF 10. C-2 Cargo type. A photograph of *Aldebaran* appears in the 1957-58 edition.



DENEBOLA — 1958, *Skyfotos*

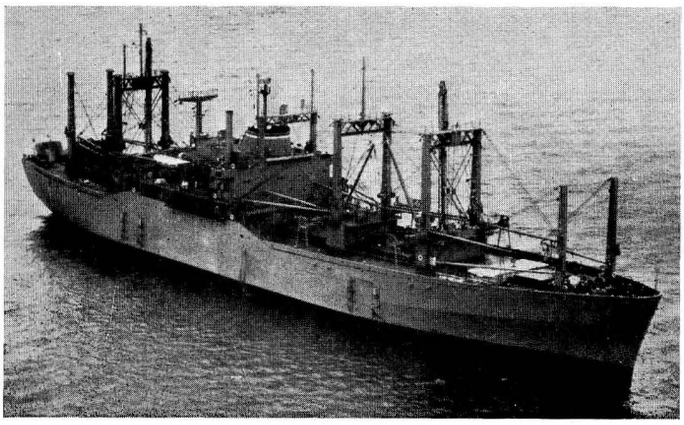
2 " Denebola " Class

DENEBOLA (ex-*Hibbing Victory*) **REGULUS** (ex-*Escanaba Victory*)

Displacement:	6,700 tons *light* (12,130 tons *full load*)
Measurement:	8,000 tons *deadweight*
Dimensions:	455¼ × 62 × 28½ feet
Guns:	8—3 inch, 50 cal. automatic AA. (twin mounts)
Machinery:	Westinghouse geared turbines. 1 shaft. S.H.P.: 8,500 = 17 kts.
Complement:	225

Notes
Maritime Administration ships acquired by U.S. Navy, 1952, for conversion to refrigerator store ships. AF 56 and AF 57, respectively, VC2-S-AP 3 type. Built 1944 by Oregon Shipbuilding Co. *Denebola* commissioned 20 Jan. 1954 after conversion by Todd, Brooklyn, *Regulus* 3 Feb. 1954. Insulated holds, refrigerated system, quick acting hatch covers. Conversion cost $8,000,000. Another photograph of *Denebola* appears in the 1956-57 and 1957-58 editions.

CARGO SHIPS (AK)



COMET — 1959, *United States Navy*

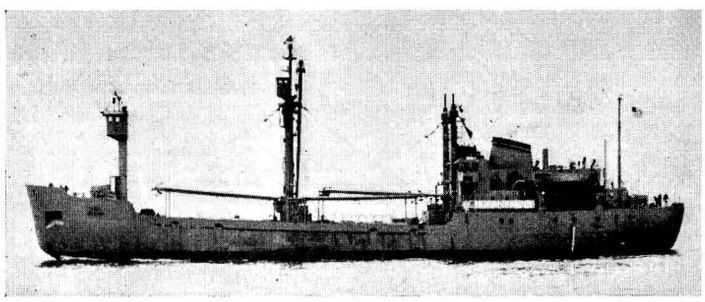
1 + 1 " Comet " Class

T-AK 269 COMET (31 July 1957)

Displacement:	7,605 tons *light* (18,150 tons *full load*)
Measurement:	12,750 tons *gross* 6,500 tons *deadweight*
Dimensions:	465 (*pp.*), 499 (*o.a.*) × 78 × 28¾ (*max.*) feet
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 13,200 = 18 kts.
Boilers:	2 Babcock & Wilcox
Complement:	73

Notes

Roll-on, Roll-off vehicle carrier built for MSTS by Sun Shipbuilding & Dry Dock Co. C3-ST-14A type. Laid down 15 May 1956. Completed on 27 Jan. 1958 (taken over on 30 Sep. 1957). Has ramp system for loading and discharging. The hull is strengthened against ice. Fitted with stern ramp. Can accommodate 700 vehicles in two after holds. The forward holds are for general cargo. Equipped with Denny-Brown Stabilisers. A similar ship was requested in the Fiscal Year 1963 Program.



MIZAR — 1960, *courtesy Mr. W. H. Davis*

3 Arctic Type

T-AK 270 ELTANIN (16 Jan. 1957)* **T-AK 271 MIRFAK** (5 Aug. 1957) **T-AK 272 MIZAR** (7 Oct. 1957)

Displacement:	2,036 tons *light*, 4,942 tons *full load*
Measurement:	2,486 tons *gross*, 1,300 tons *deadweight*
Dimensions:	247¾ (*pp.*), 256¾ (*w.l.*), 262½ (*o.a.*) × 51½ × 18¾ feet
Machinery:	2 ALCO diesels with Westinghouse electric motors. 2 shaft B.H.P.: 3,200 = 13 kts.

Notes

Built for MSTS by Avondale Marine Ways, New Orleans, La. Designed for Arctic operation with hull strengthened against ice. C1-ME2-13a type. Laid down 4 June 1956, 5 July. 1956 and 21 Jan. 1957, respectively. Launch dates above. Taken over on 2 Aug. 1957, 4 Oct. 1957 and 22 Nov. 1957.

* *Eltanin* was converted in 1961 into a scientific laboratory for Antarctic research program for the National Science Foundation. Equipped to study meteorology, the upper atmosphere marine and terrestial biology, physical oceanography, submarine geology, and geomagnetic conditions. Owned and operated by MSTS.

2 " Victory " Type

ALCOR (ex-*Rockland Victory*) **BETELGEUSE** (ex-*Columbia Victory*

Displacement:	4,420 tons (*Navy light*), 15,580 tons *full load* (Maritime Commission deadweight 10,850 tons)
Dimensions:	455½ (*o.a.*) × 62 × 28½ (*max.*) feet
Guns:	8—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 16·5 kts.

Notes

VC2-S-AP3 type. Laid down in 1944. Reactivated for the Navy in late 1951 from the Maritime Administration Reserve Fleet. AK 259 and 260 respectively. Both ships have been fitted with special equipment to transport material and supplies for fleet ballistic missile submarines. Sister ship *Antares*, AK 258, was reclassified as a General Stores Issue Ship, AKS, see previous page. A photograph of *Alcor* appears in the 1953-54 to 1957-58 editions.

Recent Disposals

Of the " Alcona " class, *Sussex*, AK 213, was stricken on 1 Jan. 1960, and *Alcona*, AK 157, *Beltrami*, AK 162, *Faribault*, AK 179, and *Grainger*, AK 184, at the end of 1960.

All six vessels of the " Alchiba " class, namely *Alchiba* (ex-*Chalres E. Winsor*), *Algorab* (ex-*Elisha Whitney*), *Aquarius* (ex-*John D. Whitney*), *Centaurus* (ex-*Nathanial Brown*), *Cepheus* (ex-*Richard W. Dixie*) and *Serpens* (ex-*William Lester*), AK 261 to 266, respectively, N3-S-A2 type, non-commissioned vessels on Navy List, formerly on loan to R.O.K. but carrying U.S.N. names and designation, were stricken on 1 Feb. 1960 and disposed of.

1 Ex-LSD Type

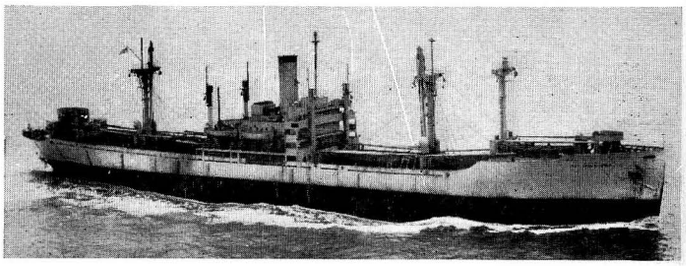
T-AK
273 TAURUS (ex-S.S. *Carib Queen*, ex-*Fort Snelling*, LSD 23)

Displacement:	6,000 tons *standard* (9,375 tons *full load*)
Dimensions:	454 (*w.l.*), 457¾ (*o.a.*) × 72½ × 18 (*max.*) feet
Machinery:	Westinghouse geared turbines. 2 shafts. S.H.P.: 9,000 = 15·4 kts.

Notes

Former U.S. Navy dock landing ship, laid down on 8 Nov. 1944 and hull built by the Gulf Shipbuilding Corporation, Chickasaw, Ala. in 1945, but not completed because of the end of the war. Converted into a roll-on, roll-off trailer ship in 1956 for commercial operation. Acquired by MSTS from the Maritime Administration in 1958. USNS, civilian crew.

Cargo Ships—*continued*



PRIVATE JOHN R. TOWLE — *Added* 1959, *Skyfotos*

5 *Type VC2-S-AP3*

T-AK
237 GREENVILLE VICTORY
240 PRIVATE JOHN R. TOWLE (ex-*Appleton Victory*)

T-AK
274 LIEUT. JAMES E. ROBINSON (ex-*Czechoslovakia Victory*)
275 PRIVATE JOSEPH F. MERRELL (ex-*Grange Victory*)
276 SERGEANT JACK J. PENDLETON

Displacement:	6,720 tons *light* (12,450 tons *full load*)
Dimensions:	455 (*o.a.*) × 62 × 24 (*max.*) feet
Machinery:	Turbine. S.H.P.: 8,500 = 16.5 to 17.7 kts.

General Notes

Greenville Victory has been winterized. Photograph of *Kingsport Victory* in the 1957-58 edition. *Dalton Victory* and *Haiti Victory*, renamed *Sunnyvale* and *Longview*, respectively, see earlier page (both USNS) are specially equipped to recover satelite capsules or missiles in the Pacific Missile Range, and are fitted with a helicopter deck and hangar for two helicopters.

Photograph Notes

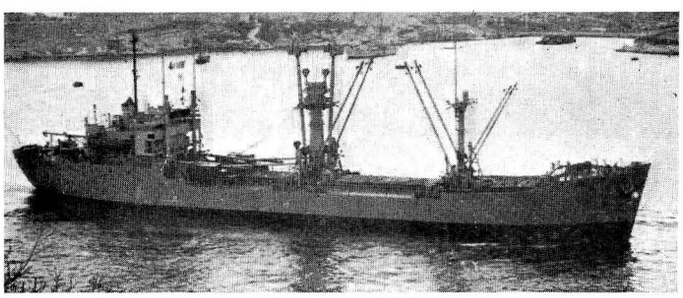
A photograph of *Lieut. James E. Robinson* appears in the 1953-54 to 1959-60 editions.

Reclassification Notes

The former Military Sea Transportation Service Aircraft Cargo and Ferry Ships *Lieut James E. Robinson*, *Private Joseph F. Merrell* and *Sergeant Jack J. Pendleton*, AKV 3, AKV 4 and AKV 5, respectively, were reclassified as Cargo Ships, AK 274, AK 275 and AK 276 on 7 May 1959. *Kingsport Victory*, T-AK 239, was renamed and reclassified *Kingsport*, T-AG 164 in 1962 for Project " Advent.".

Disposal Notes

Lieut. James E. Robinson, T-AK 274, was to have been transferred to the Maritime Administration.



SHORT SPLICE — 1958, *A. & J. Pavia*

6 *Type C1-M-AV1*

T-AK
246 COLONEL WILLIAM J. O BRIEN (ex-*Maiden's Eye*)
249 SHORT SPLICE
250 PVT. FRANK J. PETRARCA (ex-*Long Splice*)

T-AK
180 FENTRESS (ex-V 206)
188 HERKIMER (ex-V 203)
198 MUSKINGUM (ex-V 208)

Displacement:	2,460 tons *light* (7,450 tons *full load*)
Dimensions:	338¾ × 50 × 21 feet
Machinery:	Diesel. B.H.P.: 1,750 = 11·5 kts.

Notes

Colonel William J. O'Brien and *Short Splice* converted to heavy lift ships with two 80-ton cranes, Aug.-Nov. 1954, A.K 247 laid up in Atlantic Reserve Fleet 1954. T-AK 200, *Pembina* and T-AK 245, *Captain Arlo L. Olsen* (ex-*Bell Ringer*) were transferred to the Maritime Administration in 1958. *Pembina*, *Private John F. Thorson*, T-AK 247, were stricken from the Navy List in 1959. *Sergeant George Peterson*, T-AK 248, was transferred to the Maritime Administration by MSTS. *Pvt. Frank J. Petrarca*, T-AK 250, stricken on 9 Apr. 1959, was reacquired by MSTS in 1960. *Hennepin*, T-AK 187 (ex-*V* 205) and *Sergeant George Peterson*, T-AK 248, stricken on 27 Mar. 1959, were transferred to the Maritime Administration.

1 *Type C4-S-B1*

T-AK 255 PVT. LEONARD C. BROSTROM (ex-*Marine Eagle*)

1 *Type C4-S-B5*

T-AK 267 MARINE FIDDLER

Dimensions:	520 (*o.a.*) × 72 × 33 feet
Machinery:	Geared turbine. S.H.P.: 9,000 = 17 kts.

Notes

Marine Fiddler built 1945, acquired from Maritime Administration Reserve Fleet 1952. Both converted to heavy lift ships for carrying locomotives and general cargo 1954. A photograph of *Private Leonard C. Brostrom* appears in the 1954-55 to 1957-58 editions.

8 *Type VC2-S-AP2*

T-AK
241 PRIVATE FRANCIS X. McGRAW (ex-*Wabash Victory*)
242 SERGEANT ANDREW MILLER (ex-*Radcliffe Victory*)
243 SERGEANT ARCHER T. GAMMON (ex-*Yale Victory*)
244 SERGEANT MORRIS E. CRAIN (ex-*Mills Victory*)

T-AK
251 LT. GEORGE W. G. BOYCE (ex-*Waterville Victory*)
252 LT. ROBERT CRAIG (ex-*Bowling Green Victory*)
***253 PVT. JOE E. MANN** (ex-*Owensboro Victory*)
274 SCHUYLER OTIS BLAND

Displacement:	6,700 tons *light* (12,400 tons *full load*)
Dimensions:	455 × 62 × 24 feet
Machinery:	Geared turbine. S.H.P.: 6,000 = 15·5 kts.

Notes

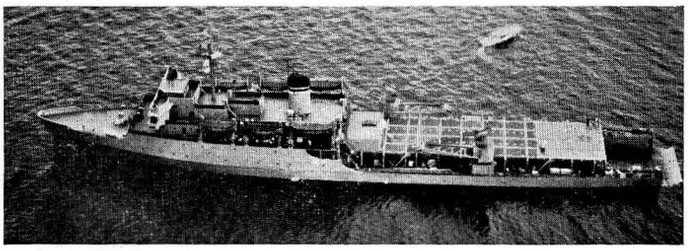
Schuyler Otis Bland was acquired from the Maritime Administration by MSTS in July 1961. U.S.N.S., civilian crew, unarmed.

Pvt. Joe E. Mann, T-AK 253, ex-*Owensboro Victory*, was fitted out as a range instrumentation and telemetry ship for the Pacific Missile Range in Oct. 1958 and renamed *Richfield*, T-AGM 4 in 1960 (see earlier page). Based at Pt. Mugu, Calif., as a tracking and recovery ship.

Recent Disposals

The two *N* 3-S-A1 type cargo ships *Sagitta*, T-AK 87 (ex-S.S. *Moses Pike*) and *Vela*, T-AK 89 (ex-S.S. *Charles A. Raulett*), stricken in July 1961 and on 3 Apr. 1959 and transferred to the Maritime Administration.

DOCK CARGO SHIP (AKD)



POINT BARROW — 1959, *United States Navy, Official*

T-AKD 1 POINT BARROW (25 May 1957)

Displacement:	5,940 tons *light*, 9,415 tons *standard* (14,094 tons *full load*)
Measurement:	12,000 tons *gross*, 4,020 tons *deadweight*
Dimensions:	462 (*pp.*), 475 (*w.l.*) 492 (*o.a.*) × 78 × 22 feet
Machinery:	Turbine. 2 shafts. S.H.P.: 6,000 = 18 kts.
Radius:	10,000 miles cruising.
Complement:	66 plus 42 transients

Notes

Built for MSTS by Maryland Shipbuilding & Dry Dock Co. Laid down on 18 Sep. 1956 and commissioned on 28 Feb. 1958. Delivered to MSTS on 29 May 1958. S2-ST-23A type. Roll-on, Roll-off ship to load vehicles on ramp, and have overhead gear for general cargo. Arcticised and adapted for polar exploration.

LIGHT CARGO SHIPS (AKL)

3 "Camano" Class

BANNER 25 (ex-*Capt. Wm. M. Galt*, ex-*FS* 370) **BRULE 28** (ex-*FS* 370) **MARK 12**

Notes

Small cargo carriers taken over from Army. Armament: 20 mm. AKL 25, 28, named, armed and commissioned in 1952 (ex-USNS). *Sharbs* (AK 10 transferred to Korea under MDAP 1956).

Recent Disposals

Tingles, AKL 13, was stricken from the Navy List in 1959. *Camano*, AKL 1, *Estero*, AKL 5, *Hewell*, AKL 14, and *Jekyl*, AKL 6, were stricken in 1960. *Deal*, AKL 2, and *Ryer*, AKL 9, were stricken in July 1961 and sold in 1962.

Alcyone (ex-*FS* 195), *Alhena* (ex-*FS* 257), *Almaack* (ex-*FS* 283), *Deimos* (ex-*FS* 390), *Pamina* (ex-*FS* 528) and *Renate* (ex-*FS* 547), same type as "Camano" class, acquired from the Army in 1952, AKL 37-42, respectively, formerly on loan to Korea but carrying U.S. names and designations, were stricken on 1 Feb. 1960.

REDBUD

Notes

T-AKL 398. Former U.S. Coast Guard Tender (WAGL). Launched on 11 Sep. 1943. Of "Basswood" class (see later page), transferred to Navy for special transport and supply service in Greenland, and in Feb. 1952 to Military Sea Transportation Service as multi-purpose freighter combination icebreaker, light cargo vessel and radio communications ship. USNS.

4 T-AKL Type

T-AK	AKL	T-AKL
17 NEW BEDFORD (ex-*FS* 289)	**27** (ex-*FS* 369)	**31** (ex-*FS* 407) **43** (ex-*FS* 219)

Notes

Same type as "Camano" class; but unarmed. T-AKL 43 was acquired in 1962. T-AKL 17 was named *New Bedford* in 1961. T-AKL 35 was transferred to the Korean Navy in 1956. Two are operated by MSTS. Complement 23.

Recent Disposals

T-AKL 33 was stricken from the list on 26 Apr. 1958, and T-AKL 24 and 34 in 1959. T-AKL 15, 16, 18, 19, 21, 23, 26, 27 and 36 were stricken on 1 May 1959, 1 Nov. 1959 and in 1960. AKL 29 was stricken in 1960. AKL 20, 22, 30 and 32 were stricken in July 1961.

COASTAL TRANSPORTS

2 T-APC Type

2 *Type C1-M-AV1*

T-APC	T-APC
116 SERGEANT JONAH E. KELLEY (ex-*Link Splice*)	**119 PRIVATE JOSE F. VALDEZ** (ex-*Round Splice*, ex-*Joe P. Martinez*)

Displacement:	2,460 tons *light* (7,460 tons *full load*)
Dimensions:	338¾ × 50 × 21 feet
Machinery:	Diesel. B.H.P.: 1,750 = 11.5 kts.

Notes

Military Sea Transportation Service coastal transports. *Private Jose F. Valdez* was re-acquired from the Maritime Administration and returned to the Navy in Aug. 1961.

Recent Disposals

Of this type, *Sergeant George D. Keathley*, T-APC 117 (ex-*Acorn Knot*, ex-*Alexander R. Niminger, Sr.*), and *Sergeant Joseph E. Muller*, T-APC 118 (ex-*Check Knot*), were transferred to the Maritime Administration in 1959.

CARGO-FBM RESUPPLY SHIP

1 New Conversion

AK (FBM)

Notes

This cargo ship, AK (FBM), is the first conversion of this type for support for ballistic missile submarine operations. She is designed as a one-stop cargo ship to provide complete re-supply of a deployed Fleet Ballistic Missile ("Polaris") submarine tender. The logistic support will not only include "Polaris" missiles, but submarine weapons, technical spares, packaged petroleum products, bottled gas and bulk and diesel fuel, general cargo, and frozen and dry provisions. It is planned to operate the ship as an independent unit with a civilian (MSTS) crew and with a Navy unit embarked, but no armament is planned for the ship.

FAST COMBAT SUPPORT SHIPS (AOE)

2 Underway Replenishment Type

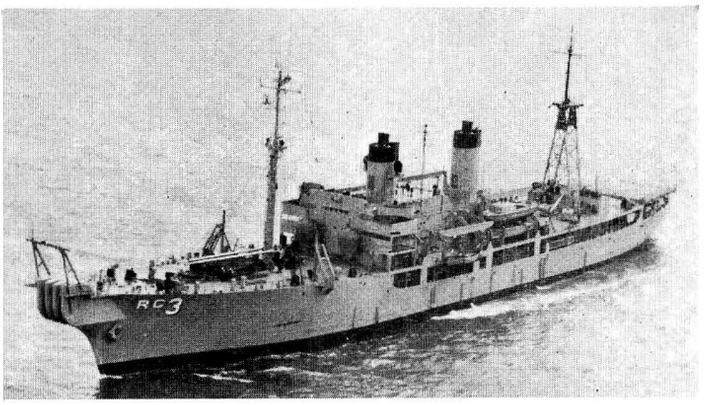
AOE 1 SACRAMENTO **AOE 2**

Displacement:	19,200 tons *light* (51,000 tons *full load*)
Dimensions:	708 × 108 × 35 feet
Guns:	8—3 inch, 50 cal., rapid fire in twin mounts
Aircraft:	2 cargo helicopters aft
Machinery:	26 kts. sustained speed

Notes

A new class of Fast Combat Support Ships (AOE) to supply task forces of the future is being planned. They are to combine the present functions of the ammunition ships, cargo ships and fleet oilers. To carry one fifth more fuel than the latest fleet oilers (black oil, diesel oil and aviation spirit), and one quarter the capacity of the latest ammunition ship, including guided missiles, as well as 250 tons of dry cargo and 250 tons of frozen food. Funnel aft type. Oil capacity 177,000 barrels. To cost $66,000,000 each. *Sacramento* is being built by Puget Sound Naval Shipyard under the Fiscal Year 1961 Program. Laid down on 30 June 1961. The second is requested in the Fiscal Year 1963 Program.

CABLE REPAIR SHIPS (ARC)



AEOLUS — *Added* 1961, *United States Navy, Official*

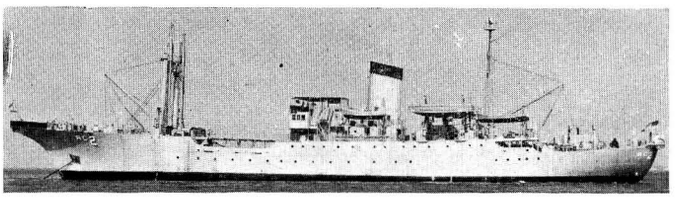
2 "Aeolus" Class

ARC 3 AEOLUS (ex-*Turandot*, *AKA* 47) **ARC 4 THOR** (ex-*Vanadis*, *AKA* 49

Displacement:	7,000 tons
Dimensions:	400 (*w.l.*), 426 (*o.a.*) × 58 × 16 feet
Machinery:	Westinghouse turbo-electric. S.H.P.: 6,000 = 16·9 kts.

Notes

Having been laid up in the Maritime Administration Reserve Fleet since June 1946, the *Aeolus* was re-acquired by the Navy on 4 Nov. 1954. Both converted to Cable Laying or Repair Ships by the Key Highway Plant of Bethlehem Steel, Baltimore, Maryland. *Aeolus* commissioned in May 1955. *Thor*, built by Walsh Kaiser Company, Providence, commissioned on 3 Jan. 1956. The conversions of two more ARC of 4,100 tons requested in the 1956 program were not undertaken. A photograph of *Thor* appears in the 1957-58 to 1960-61 editions.



NEPTUNE — 1954, *U.S. Navy, Official*

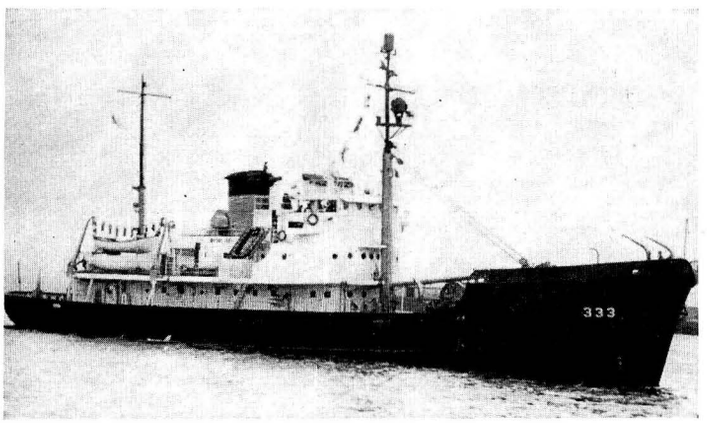
1 "Neptune" Type

ARC 2 NEPTUNE (ex-*William H. G. Bullard*)

Measurement:	3,929 tons *gross*, 4,860 tons *deadweight*
Dimensions:	322 × 47 × 33¼ feet
Machinery:	Reciprocating Unaflow engines. 2 shafts. I.H.P.: 4,800 = 14 kts.

General Notes

Built by Pusey and Jones Corpn., Wilmington, Del. Launched 1945. Completed Feb. 1946. Acquired from Maritime Administration 1953. S3-S2-BP1 type.



YAMACRAW — *United States Coast Guard, Official*

1 Minelayer Type

YAMACRAW ARC 5 (ex-U.S.C.G. WARC 333, ex-*Trapper*, ex-ACM 9)

Displacement:	1,054 tons *standard* (1,250 tons *full load*)
Dimensions:	188¾ (*o.a.*) × 37 × 12 (*max.*) feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,200 = 12 kts.

Notes

Launched in 1943. Originally an Army minelayer and subsequently a U.S. Navy auxiliary minelayer, afterwards employed as a U.S. Coastguard cable layer. Transferred to the U.S Navy on a loan basis as a cable repair ship in 1959. Commissioned on 30 Apr. 1959.

Transfer Notes

The cable repair ship of the ex-LSM type, *Portunus*, ARC 1 (ex-LSM 275) was transferred to Portugal on 1 May 1959.

Recent Disposals

The cable repair ship of the wooden type, *Nashawena*, YAG 35 (ex-AG 142) was stricken in 1960.

SALVAGE TENDERS (ARST)

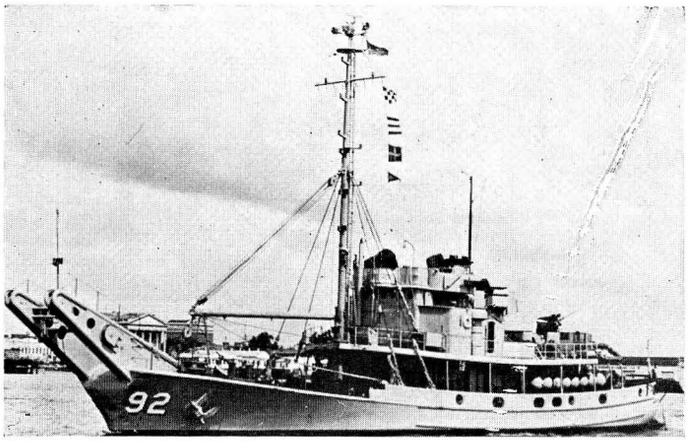
LAYSAN ISLAND (ex-*LST* 1098) **PALMYRA** (ex-*LST* 1100)

Displacement:	1,653 tons *standard* (4,080 tons *full load*)
Dimensions:	328 × 50 × 11 feet (14½ feet (*max.*))
Machinery:	Diesel. 2 shafts. B.H.P.: 1,800 = 11 kts.

Notes

ARST 1 and 3, respectively. Former Tank Landing Ships. Out of commission, in reserve. A photograph of *Palmyra* appears in the 1949-50 to 1957-58 editions.

NETLAYERS (Boom Defence Vessels) (AN)



YAZOO — 1959, *U.S. Navy, Official*

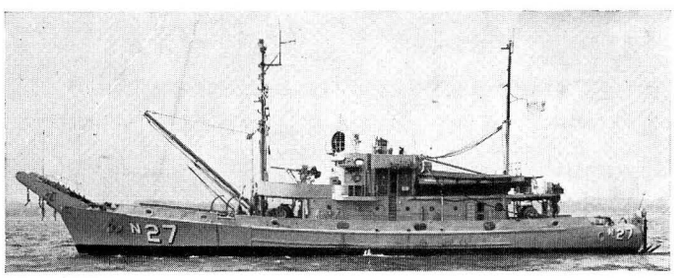
9 "Cohoes" Class

COHOES (29 Nov. 1944)
ETLAH (16 Dec. 1944)
NAHANT (June 1945)
ONEOTA (27 May 1944)
PASSACONAWAY (30 June 1944)
PASSAIC (29 June 1944)
SHAKAMAXON (9 Sep. 1944)
WAXSAW (15 Sep. 1944)
YAZOO (18 Oct. 1944)

Displacement:	650 tons *standard* (785 tons *full load*)
Dimensions:	168½ × 33⅜ × 10¾ feet
Guns:	1—3 inch
Machinery:	Busch-Sulzer diesel-electric. S.H.P.: 1,500 = 12 kts.
Complement:	46

Notes

AN 78, 79, 83, 85, 86, 87, 88, 91, 92, respectively. Built by Commercial Iron Works (78, 79, 83); Marine & S.B. Co. (85, 86); Leatham D. Smith S.B. Co. (87, 88); and Zenith Dredge Co. (91, 92). A photograph of *Waxsaw* appears in the 1949-50 to 1957-58 editions. *Tanawanda*, AN 89, was loaned to Haiti in 1960. *Marietta*, AN 82, was loaned to Venezuela in Jan. 1961. *Manayunk*, AN 81, *Naubuc*, AN 84, *Suncock*, AN 80, and *Tunxis*, AN 90, were transferred to the National Defence Reserve Fleet in 1961, but remain on the Navy List.



MULBERRY — 1955, *U.S. Navy, Official*

4 "Tree" Class

MULBERRY (26 Mar. 1941) (AN 27)
BUCKEYE (ex-*Cottonwood*, 26 July 1941) (AN 13)
BUCKTHORN (ex-*Dogwood*, 27 Mar. 1941) (AN 14)
BUTTERNUT (10 May 1941) (AN 9)

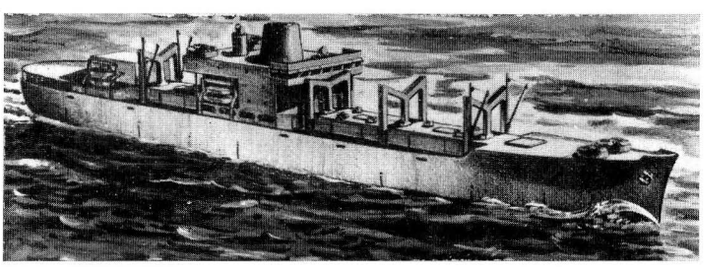
Displacement:	560 tons *standard* (805 tons *full load*)
Dimensions:	146 (*w.l.*), 163 (*o.a.*) × 30½ × 10½ (*mean*), 11¾ (*max.*) feet
Guns:	1—3 inch AA., some M.G.
Machinery:	Diesel-electric. B.H.P.: 800 = 13 kts.
Complement:	48

Notes

Former YN. Steel hulls. Built by American S.B. Co., Cleveland, Ohio: *Mulberry*, Commercial Iron Works, Portland, Oregon; (*Buckeye*), General Eng. & D.D. Co., Alameda, California; (*Buckthorn*), and Lake Washington Shipyards, Houghton, Washington, (*Butternut*). Launch dates above. Three of this class were transferred to the French Navy in 1944, and one to Turkey in 1947.

Aloe, AN 6, *Ash*, AN 7, *Boxwood*, AN 8, *Catalpa*, AN 10, *Chestnut*, AN 11, *Cinchona*, AN 12, *Ebony*, AN 15, *Eucalyptus*, AN 16, *Holly*, AN 19, *Elder*, AN 20, *Locust*, AN 22, *Mango*, AN 24, *Mimosa*, AN 26, *Palm*, AN 28, *Hazel*, AN 29, *Redwood*, AN 30, *Rosewood*, AN 31, *Sandalwood*, AN 32, *Nutmeg*, AN 33, and *Teak*, AN 35, were transferred to the Maritime National Defence Reserve Fleet in 1961. *Teaberry* AN 34 was stricken in 1961 and disposed of in 1962.

COMBAT STORE SHIPS (AFS)



AFS 1 — 1962, *United States Navy, Official*

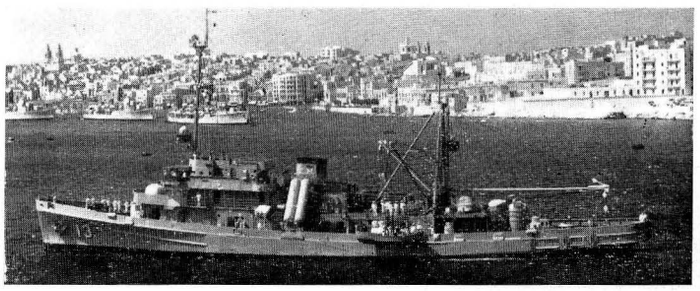
AFS 1 **AFS 2**

Displacement:	16,100 tons *full load*
Dimensions:	581 × 79 feet
Guns:	4—3 inch, 50 cal. in two twin mountings
Machinery:	Steam turbines. 1 shaft. S.H.P.: 22,000 = 20 kts.
Complement:	486 (45 officers, 441 men)

Notes

Prototype, AFS 1, being built under the Fiscal Year 1961 Program, AFS 2 to be built under the 1962 Program, both by National Steel & Shipbuilding, San Diego, California. Of a new design with a completely new replenishment at sea system. "M" frames replace conventional king posts and booms, which will be equipped with automatic tensioning devices to maintain transfer lines taut between the ship and the warships being replenished despite rolling and yawing. Helicopters will be carried to fulfil vertical replenishment requirements for ships in a task force spread over a wide area. AFS 1 was laid down on 5 May 1962, and AFS 2 on 18 Aug. 1962.

SUBMARINE RESCUE VESSELS (ASR)



KITTIWAKE — 1962, *A. and J. Pavia*

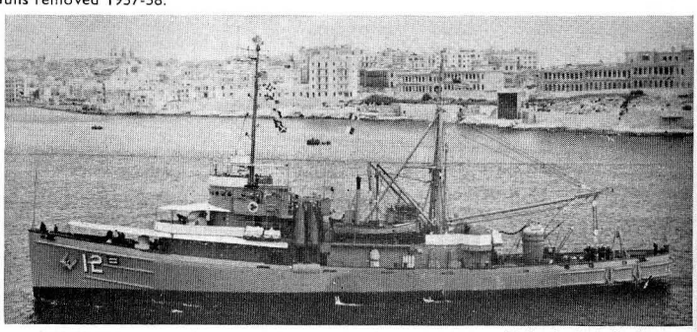
8 "Chanticleer" Class

CHANTICLEER (29 May 1942)
COUCAL (29 May 1942)
FLORIKAN (14 June 1942)
GREENLET (12 July 1942)
KITTIWAKE (10 July 1945)
PETREL (26 Sep. 1945)
SUNBIRD (3 Apr. 1945)
TRINGA (25 June 1945)

Displacement:	1,653 tons *standard* (2,141 tons *full load*)
Dimensions:	251½ × 42 × 14⅝ feet
Guns:	Removed.
Machinery:	First four: American Locomotive Co. diesels. Last four General Motors diesels. Diesel-electric. B.H.P.: 3,000 = 14·9 kts.
Complement:	85

Notes

ASR 7-10, respectively, built by Moore D.D. Co.; 13-16, respectively, built by Savannah Machine & Foundry Co. Launch dates above. Large tug type. All above vessels are equipped with powerful pumps, heavy air compressors and special submarine rescue chambers. Guns removed 1957-58.



PENGUIN — 1961, *A. & J. Pavia*

2 "Penguin" Class

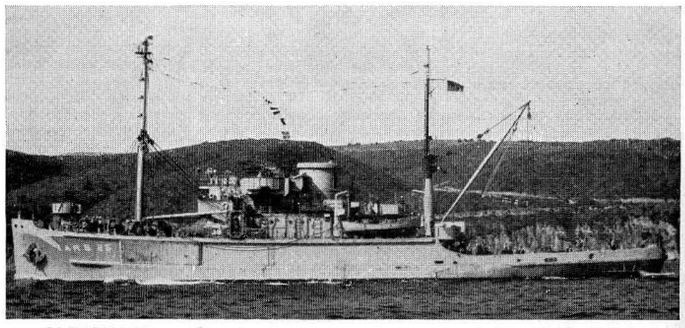
PENGUIN (ex-*Chetco*, 20 July 1943)
SKYLARK (ex-*Yustaga*, 1946)

Displacement:	1,235 tons *standard* (1,675 tons *full load*)
Dimensions:	195 (*w.l.*), 205 (*o.a.*) × 38½ × 12 (*mean*), 15½ (*max* feet
Guns:	1—3 inch, 2—40 mm. AA. (may be removed)
Machinery:	Diesel-electric. B.H.P.: 3,000 = 16·5 kts.
Complement:	85

Notes

Former fleet type tugs, adapted for present service in 1947. Built by Charleston S.B. & D.D. Co. ASR 12,20. *Bluebird*, ASR 19, was transferred to Turkey in May 1950. The fleet tugs *Luiseno* and *Papago* (see later page) are also fitted out as submarine rescue vessels. A photograph of *Skylark* appears in the 1955-56 to 1960-61 editions.

SALVAGE VESSELS (ARS)



SAFEGUARD — *Added* 1958, *Ted Stone*

14 "Escape" Class

BOLSTER (23 Dec. 1944)
CLAMP (ex-*Arlantic Salvor*, 24 Oct. 1942)
CONSERVER (27 Jan. 1945)
CURRENT (25 Sep. 1943)
DELIVER (25 Sep. 1943)
ESCAPE (22 Nov. 1942)
GRAPPLE (31 Dec. 1942)
GRASP (31 July 1943)
HOIST (31 Mar. 1945)
OPPORTUNE (31 Mar. 1945)
PRESERVER (1 Apr. 1943)
RECLAIMER (25 June 1945)
RECOVERY (4 Aug. 1945)
SAFEGUARD (20 Nov. 1943)

Displacement:	1,530 tons *standard* (1,897 tons (ARS 6-34), 1,900 tons (ARS 38-43) *full load*)
Dimensions:	207 (*w.l.*), 213¾ (*o.a.*) × 39 or 43 × 13 feet
Guns:	4—40 mm. AA.
Machinery:	Diesel-electric. 2 shafts. B.H.P.: 3,000 = 14 kts.
Complement:	85

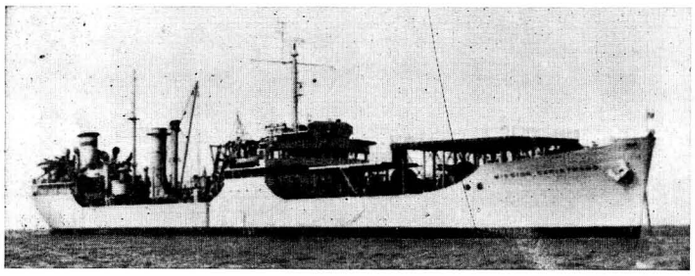
General Notes

ARS 38, 33, 39, 22, 23, 6, 7, 24, 40, 41, 8, 42, 43 and 25, rsepectively. Built by Basalt Rock Co. *Cable*, ARS 19, *Curb*, ARS 21 and *Gear*, ARS 34, are on loan to a private operator. A photograph of *Bolster* appears in the 1946-47 to 1957-58 editions.

Oceanographical Notes

Chain and *Snatch* were converted into Oceanographic Research Ships in 1958-59. *Chain* ARS 20, was assigned to the Woods Hole Oceanographic Institute by the Office of Naval Research. She was converted by the Savannah Machine & Foundry. *Snatch*, ARS 27, was assigned to the Scripps Institute of Oceanography by the ONR. Complement of 40 plus 28 scientists. Four laboratories, and winches for specialised work. She was converted by Puget Sound Bridge and Drydock Co. at a cost of $500,000 and completed in June 1960, being renamed *Argo*.

AUXILIARIES (AG)



MISSION CAPISTRANO 1962, *courtesy Mr. W. H. Davis*

MISSION CAPISTRANO AG 162 (ex-*AO* 112)

Displacement:	17,000 tons
Dimensions:	523½ (*o.a.*) × 68 × 30⅝ feet
Machinery:	Turbo-Electric. S.H.P.: 10,000 = 16 kts.

Notes

This former oiler of the "T2-SE" type (see later page) has been converted by Todd Shipyards, New Orleans, into a sound testing experimental ship in connection with operations of Texas Tower Argus Island off Bermuda. Fitted with a sound transducer assembly five stories high. Used to test the hugh sonar transducer in a giant new sonar system for detecting submarines at long range. The transducer can be raised and lowered as desired. Project "Artemis."

KINGSPORT T-AG 164 (ex-*Kingsport Victory*, T-AK 239)

Displacement:	7,190 tons *light* (10,680 tons *full load*)
Dimensions:	455 (*o.a.*) × 62 × 24 (*max.*) feet
Machinery:	General turbines. 1 shaft. S.H.P.: 8,500 = 17 kts.

Notes

Former cargo ship in the MSTS fleet. Name shortened, ship reclassified, and converted in 1961-62 by Willamette Iron & Steel Co., Portland, Oregon, into the world's first satellite communications ship, for Project Advent, involving the promotion of a terminal to meet the required military capability for high capacity, world-wide radio communications using high altitude hovering satellites, and the installation of ship-to-shore communications, facilities, additional electric power generating equipment, a helicopter landing platform, aerological facilities, and a 30-ft. parabolic communications antenna housed in a 53-ft. diameter plastic radome abaft the superstructure.

AG 158

Notes

Authorised for construction/conversion under the Fiscal Year 1960 Program in Dec. 1959.

2 Experimental Minefield Sweeper Type

YAG 39 (ex-S.S. GEORGE EASTMAN) — **YAG 40 (ex-S.S. GRANVILLE S. HALL)** (ex-*Ira Nelson Morris*)

Dimensions:	422⅜ (*o.a.*) × 57 × 34⅜ (*max.*) feet
Machinery:	Steam reciprocating. H.P.: 2,500 = 11 kts. (See *Notes*)

Notes

Liberty ships, EC 2-S-C1 type built 1943-44, acquired by Navy in 1952-53 as Experimental Minefield Sweepers. Several have been used as guinea-pig ships in sweeping minefields. Remote engine room controls on bridge. In reserve. No Navy names assigned. Also used as store ships.

Recent Disposals

The experimental minefield sweeper YAG 37 (ex-*John L. Sullivan*) was scrapped in 1958, and YAG 36 (ex-*Floyd W. Spencer*) and YAG 38 (ex-*Edward Kavanagh*) were stricken in 1960.

The Fleet X-ray examination ship *Whidbey*, AG 141, was stricken on 1 May 1959.

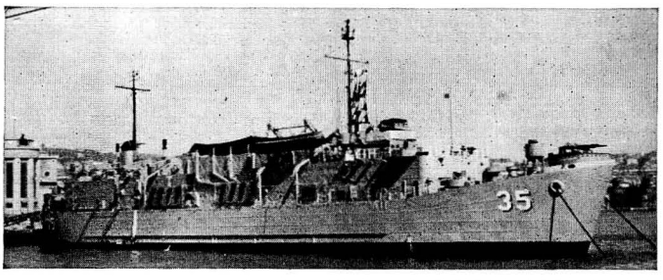
SEQUOIA, AG 23

Displacement:	110 tons *light*
Dimensions:	105 × 21 × 5
Machinery:	1 diesel. B.H.P.: 400

Notes

Yacht. Built in 1925 by J. H. Mathis Co. Used as the flagship of the Secretary of the Navy. There are four other Navy yachts:—**FREEDOM** (*IX* 43), **HIGHLAND LIGHT** (*IX* 48), **SALUDA** (*IX* 87), **ROYONO** (*IX* 235)

DEPOT SHIPS (APB)



BENEWAH 1956, *Lieut. Aldo Fraccaroli*

9 "Ex-LST" Type

APB
35 BENEWAH (ex-APL 35)
36 COLLETON (ex-*APL* 36)
46 DORCHESTER (ex-*AKS* 17, ex-*ST* 1112)
37 ECHOLS (ex-*APL* 37)
47 KINGMAN (ex-*AKS* 18, ex-*LST* 1113)

APB
38 MARLBORO (ex-*APL* 38)
39 MERCER (ex-*APL* 39)
40 NUECES (ex-*APL* 40)
48 VANDERBURGH (ex-*AKS* 19, ex-*LST* 1114)

Displacement:	2,189 tons (*light*), 4,080 tons *full load*
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 (*extreme*) × 11 feet
Guns:	40 mm. (No of guns varies)
Machinery:	General Motors Diesels. 2 shafts. B.H.P.: 1,600 to 1,800 = 12 kts. (*APB* 41-50). 10 kts. (*APB* 35-40)

General Notes

Officially rated as Barrack ships, self-propelled (APB). All ex-*LST* type ships of the same basic characteristics.

Recent Disposals

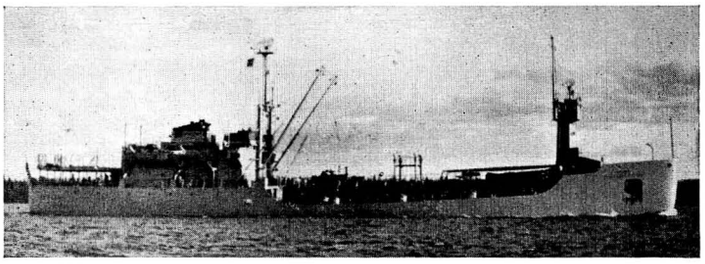
Sister ships *Accomac*, APB 49, *Cameron*, APB 50, *Presque Isle*, APB 44, *Wythe*, APB 41, *Yavapai*, APB 42, and *Yolo*, APB 43, were stricken from the Navy List in 1959, and *Blackford*, APB 45 (ex-AKS 16, ex-LST 1111) in 1960.

The depot ship *Dupage*, APB 51 (ex-S.S. *John R. Weeks*), converted "Liberty" type merchant vessel, was stricken on 1 June 1959.

Recent Disposals of Motor Mine Planters

YMPI (ex-JMP 70), former Army Junior Mine Planter, was stricken in 1961. Sister ship YMP 2 (ex-*Sergeant Truman O. Olson*) was stricken on 1 Feb. 1960. (YMP 3 a new construction ship, was transferred to Turkey in 1958 under the Mutual Defense Assistance Program).

PETROL CARRIERS (AOG)



CHATTAHOOCHEE 1960, *courtesy Mr. W. H. Davis*

2 "Alatna" Class

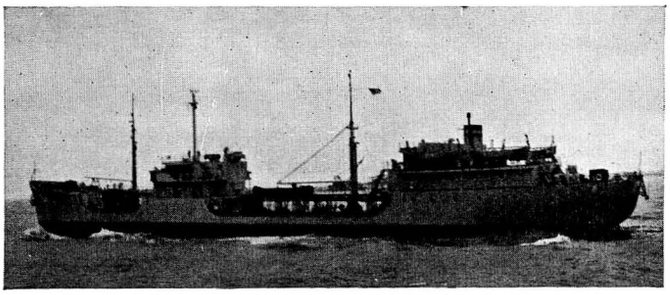
T-AOG 81 ALATNA (6 Sep. 1956) **T-AOG 82 CHATTAHOOCHEE** (4 Dec. 1956)

Displacement:	5,720 tons
Measurement:	3,200 tons *gross*, 3,445 tons *deadweight*
Capacity:	2,730 tons liquid cargo = 30,000 barrels
Dimensions:	285½ (*pp.*), 302 (*o.a.*) × 61 × 19 feet
Machinery:	Diesel-electric. 2 shafts. H.P.: 3,400 = 12 kts.

Notes

TI-ME T-24a type. Built for MSTS by Bethlehem Steel, Staten Island, N.Y. Laid down on 16 Mar. 1956 and 1 May 1956, respectively. Delivered in June and August 1957. Both have bows strengthened for navigation in ice, and are equipped with a helicopter flight deck.

Chattahoochee is in Maritime Administration custody but remains on the Navy List.



TONTI 1957, *W. H. Davis*

3 "Peconic" Class

AOG
79 PETALUMA (ex-*Raccoon Bend*) USNS
80 PISCATAQUA (ex-*Cisne*) USNS

AOG
77 RINCON USNS

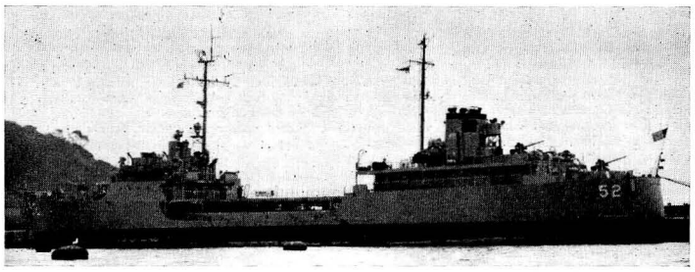
Displacement:	2,060 tons *light* (6,000 tons *full load*)
Dimensions:	325 (*o.a.*) × 48 × 19 (*max*) feet
Machinery:	Diesel. 1 shaft. B.H.P.: 1,400 = 10 kts.
Capacity:	30,000 barrels
Merchant crew:	33

Notes

TI-M-BT2 design. Assigned to MSTS and are non-commissioned naval vessels, USNS, unarmed. All built by Todd, Houston.

Recent Disposals

Nodaway, AOG 78 (ex-*Belridge*) and *Peconic*, AOG 68, of this class were transferred to the Maritime Administration in 1960, and *Tonti*, AOG 76, in 1961.



MATTABESSET 1962, *courtesy Godfrey H. Walker, Esq.*

10 "Patapsco" Class

AOG
49 CHESTATEE(USAF)
50 CHEWAUCAN (22 July 1944)
7 ELKHORN (15 May 1943)
8 GENESEE (23 Sep. 1943)
52 MATTABESSET (11 Nov. 1944)

AOG
53 NAMAKAGON (4 Nov. 1944)
55 NESPELEN (10 Apr. 1945)
58 PINNEBOG (USAF)
11 TOMBIGBEE (18 Nov. 1943)
59 WACISSA (USAF)

Displacement:	1,850 tons *light* (4,335 tons *full load*)
Dimensions:	292 (*w.l.*), 310¾ (*o.a.*) × 48½ × 15¾ (*max.*) feet
Guns:	3—3 inch d.p., 50 cal.
Machinery:	Diesel-electric. 2 shafts. B.H.P.: 3,300 = 14 kts.
Complement:	124

Notes

Launch dates above. Navy designed. 16 built at Savage, Minnesota; 3 at Tacoma. Seven of these ships are assigned to Military Sea Transportation Service designated USNS, and are unarmed. AOG 49, 51, 58, 59, ex-USNS, were in reserve, but were taken out of reserve and placed in service with civil service crews under MSTS in 1956.

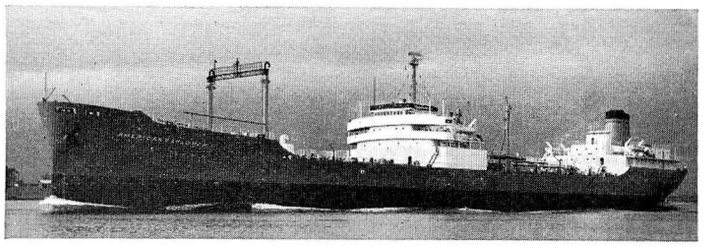
Recent Disposals

Maquoketa, T-AOG 51, has been stricken. *Kern*, AOG 2, *Wabash* AOG 4, and *Maquoketa* AOG 51, were transferred to Maritime Administration in 1958. *Ontonagon*, AOG 36 was stricken from the Navy List and returned to Maritime Administration on 13 Nov. 1957. *Agawam*, AOG 6, *Kishwaukee*, AOG 9, *Nemasket*, AOG 10, *Noxubee*, AOG 56, *Putapsco*, AOG 1, and *Rio Grande*, AOG 3 were disposed of in 1961.

Transfer Notes

Natchaug, AOG 54 was transferred to Greece under the MDAP on 1 Aug. 1959 *Susquehanna*, AOG 5, was transferred to the Maritime Administration in 1959-60. *Chestatee*, *Pinnebog* and *Wacissa* are on loan to the U.S. Air Force. *Pecatonica*, AOG 57, was transferred to Taiwan China in Apr 1961.

FLEET OILERS (AO)



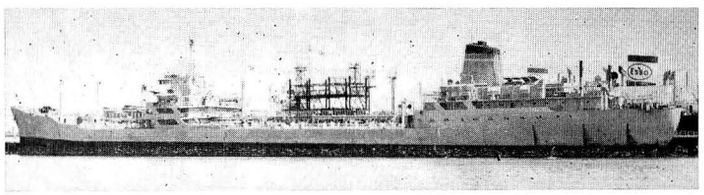
AMERICAN EXPLORER 1961, *United States Navy, Official*

T-AO 165 AMERICAN EXPLORER

Measurement:	16,500 tons *gross*, 22,525 tons *deadweight*
Dimensions:	615 (*o.a.*) × 80 × 44½ feet
Machinery:	Steam turbines. S.H.P.: 22,000=20 kts.

Notes

T5-S-RM2a type. Laid down on 9 July 1957. Launched on 11 Apr. 1958. Built by Ingalls Shipbuilding Corporation, Pascagoula, for the Maritime Administration, but acquired by MSTS. Rated as U.S. Naval Ship with civil service crew.



MAUMEE 1962, *United States Navy, Official*

3 "Maumee" Class

T-AO 149 MAUMEE (16 Feb. 1956) **T-AO 151 SHOSHONE** (17 Jan. 1957)
T-AO 152 YUKON (16 Mar. 1956)

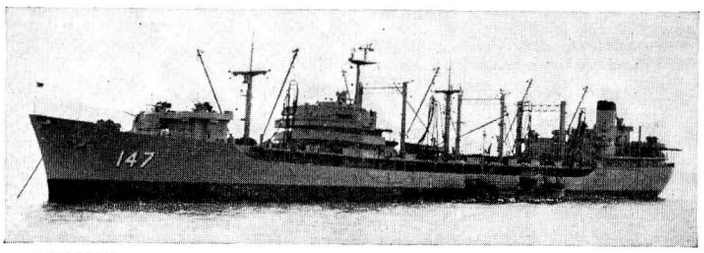
Displacement:	7,950 tons *light*
Measurement:	16,500 tons *gross*, 25,000 tons *deadweight*
Dimensions:	591 (*w.l.*), 620 (*o.a.*) × 83½ × 32 feet
Machinery:	Turbine. S.H.P.: 20,460=18 kts.
Cargo oil capacity:	190,300 barrels
Fuel oil:	2,479 tons

Notes

Built for MSTS under 1955 Fiscal year building program. *Yukon*, laid down 16 May 1955, by Ingalls, Pascagoula, Miss.; *Maumee* laid down 8 Mar. 1955. *Shoshone* laid down 15 Aug. 1955, by Sun Shipbuilding, Chester. T5-S-12A type. *Maumee* delivered Dec. 1956, *Shoshone* Apr. 1957, *Yukon* May 1957.

Recent Loss

Sister ship *Potomac*, T-AO 150, exploded and sank at Morehead, N.C., as a result of fire on 26-27 Sep. 1961.



TRUCKEE 1960, *courtesy E. Woods, Esq.*

6 Large Type

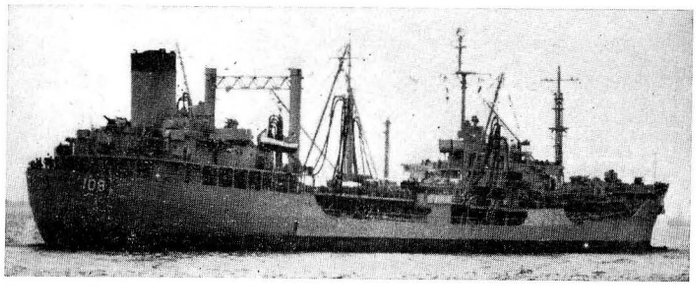
AO	AO
143 NEOSHO (10 Nov. 1953)	**146 KAWISHIWI** (11 Dec. 1954)
144 MISSISSINEWA (12 June 1954)	**147 TRUCKEE** (10 Mar. 1955)
145 HASSAYAMPA (12 Sep. 1954)	**148 PONCHATOULA** (9 July 1955)

Displacement:	11,600 tons *light* (38,000 to 40,000 tons *full load*)
Dimensions:	640 (*w.l.*), 655 (*o.a.*) × 86 × 35 (*max.*) feet
Guns:	12—3 inch, 50 cal. (in six twin mounts)
Machinery:	G.E. turbines. 2 shafts. S.H.P.: 28,000=20 kts.
Complement:	300 (fitted to carry squadron staffs of 12 officers)

General Notes

Giant oilers. First, AO 143, awarded to Bethlehem Steel Company, Quincy, Mass. AO 144-148 awarded later to New York Shipbuilding Corporation, Camden, New Jersey, with the Bethlehem company's design as prototype. *Mississinewa* commissioned 18 Jan. 1955. Launch dates above. *Truckee* laid down 21 Dec. 1953. *Ponchatoula* 1 Mar. 1954. Largest Navy oil tankers built. Carry 180,000 barrels in 24 tanks. The 2—5 inch, 38 cal. guns were removed in 1960 and a helicopter platform is now located in place of the after 5 inch gun.

A photograph of *Neosho* appears in the 1955-56 to 1959-60 editions.



PAWCATUCK 1962, *Stefan Terzibaschitsch*

5 "T3-S2-A3" Type

MISPILLION (10 Aug. 1945) **PASSUMPSIC** (31 Oct. 1945)
NAVASOTA (30 Aug. 1945) **PAWCATUCK** (19 Feb. 1945)
WACCAMAW (30 Mar. 1946)

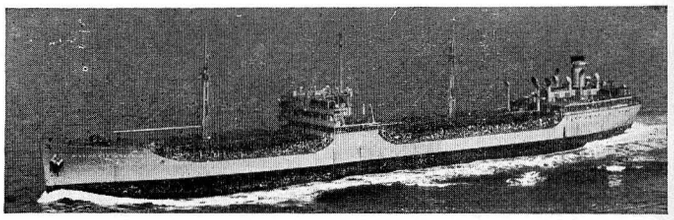
Displacement:	7,423 tons *light* (25,440 tons *full load*)
Dimensions:	553 (*o.a.*) × 75 × 32½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 4—3 inch, 50 cal., 12—40 mm. AA.
Machinery:	Turbines. 2 shafts. S.H.P.: 13,500=18.3 kts.

General Notes

AO 105, 106, 107, 108, 109, respectively. Cargo: 142,500 barrels of oil. *Waccamaw* was to have been converted to fleet tanker replenishment (AOR), but this project was abandoned.

A port oblique aerial view of *Waccamaw* appears in the 1957-58 to 1961-62 editions.

Fleet Oilers—*continued*



MISSION SAN FERNANDO 1953, *Skyfotos*

15 "T2-SE" Type

CACHE (ex-*Stillwater 1942*)
CHEPACHET (1943)
COSSATOT (1942)
COWANESQUE (1942)
MILLICOMA (ex-*Conastega*, 21 Jan. 1943)
MISSION BUENAVENTURA
MISSION SAN ANTONIO
MISSION SAN RAFAEL
MISSION SANTA YNEZ
PECOS (ex-*Corsicana*, 1942)
PIONEER VALLEY
SAUGATUCK (ex-*Newton*, 1942)
SCHUYLKILL (ex-*Louisburg*), 16 Feb. 1943)
SUAMICO (ex-*Harlem Heights*, 1941)
TALLULAH (ex-*Valley Forge*, 1944)

Displacement:	5,730 tons *light* (22,380 tons *full load*)
Dimensions:	503 (*w.l.*), 523½ (*o.a.*) × 68 × 30⅝ (*max.*) feet
Machinery:	A 1 type Turbo-electric. S.H.P.: 6,000=15.1 kts. A 2 type S.H.P.: 10,000=16.2 kts.
Boilers:	2 Babcock & Wilcox

General Notes

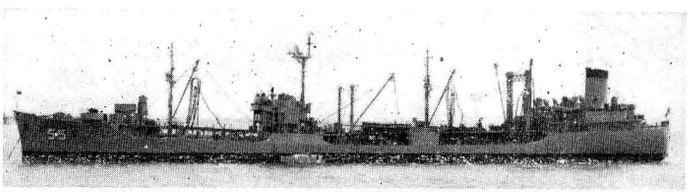
T2-S E-A1 and T2-S E-A2 design. All above oilers are assigned to Military Sea Transportation Service and carry the prefix U.S.N.S. (U.S. Naval Ship). These ships are civilian manned, Navy-owned tankers, operated by commercial shipping firms under contract to the Navy. Several are equipped with an aluminium portable aircraft cargo deck. Many were stricken from Navy List and returned to Maritime Administration reserve fleets in 1957-58, *Abiqua*, *Anacostia*, *Cahaba*, *Caney*, *Cumberland*, *Kennebaga*, *Mascoma*, *Muir Woods*, *Ockiawaha*, *Pamanset*, *Poolie*, *Parkersburg*, *Roanoke* and *Tamalpais* in 1959, and *Sappa Creek* and *Soulbarissen* in 1960. *Mission San Francisco*, AO 123, stricken from list as a result of the collision in Delaware River in Mar. 1957. *Mission San Miguel* abandoned after grounding on Maro Reef, Hawiai on 8 Oct. 1957. *Mission Solano*, T-AO 135, transferred from the Navy to Maritime Administration's Olympia, Washington, Reserve Fleet on 15 Aug. 1957. Others were returned to the Maritime Administration, including *Mission de Palo*, *Mission Loreto*, *Mission Los Angeles*, *Mission San Carlos*, *Mission San Juan*, *Mission San Luis Obispo*, *Mission Santa Ana* and *Mission Santa Barbara* in 1959, and *Mission Santa Clara* and *Mission Santa Cruz* in 1960. *Mission Buenaventura*, *Mission San Antonio*, *Mission San Rafael*, *Mission Santa Clara* and *Pioneer Valley* reacquired from the Maritime Administration and returned to the Navy in 1961-62 for MSTS. *Tomahawk* was stricken and transferred to the National Defence Reserve Fleet in 1961. *Mission Santa Clara*, T-AO 132, was loaned to Pakistan in Mar. 1962.

Conversion Notes

Mission Capistrano. AO 112, has been converted into AG 162, a sound testing experimental ship (see under Auxiliaries on earlier page).

Recent Disposals

Of the two distilling ships, ex-oilers, of the "Pasig" class, *Abatan*, AW 4 (ex-*Mission San Lorenzo*, AO 92, and *Pasig*, AW 3, (ex-*Mission San Xavier*, AO 91) were stricken and transferred to the Maritime National Defence Reserve Fleet in 1960-61.



ELOKOMIN 1962, *courtesy E. Woods, Esq.*

24 "T3-S2-A1" Type

ALLAGASH (14 Apr. 1945)
ASHTABULA (22 May 1943)
AUCILLA (20 Nov. 1943)
CACAPON (6 June 1943)
CALIENTE (26 Aug. 1943)
CALOOSAHATCHEE (2 June 1945)
CANISTEO (6 July 1945)
CHEMUNG (ex-*Esso Annapolis*, 9 Sep. 1939)
CHIKASKIA (2 Oct. 1943)
CHIPOLA (21 Oct. 1944)
CHUKAWAN (28 Aug. 1945)
CIMARRON (7 Jan. 1939)
ELOKOMIN (19 Oct. 1943)
GUADALUPE (ex-*Esso Raleigh*, 26 Jan. 1940)
KASKASKIA (ex-*Esso Richmond*, 29 Sep. 1939)
MANATEE (19 Feb. 1944)
MARIAS (21 Dec. 1943)
NANTAHALA (1943)
PLATTE (8 July 1939)
SABINE (ex-*Esso Albany*, 27 Apr. 1940)
SALAMONIE (ex-*Esso Columbia*, 18 Sep. 1940)
SEVERN (31 May 1944)
TALUGA (10 July 1944)
TOLOVANA (6 Jan. 1945)

Displacement:	7,256 tons *light* (25,425 tons *full load*)
Dimensions:	525 (*w.l.*), 553 (*o.a.*) × 75 × 31½ feet
Guns:	1—5 inch, 4—3 inch (*Chemung*, *Guadalupe*, *Kaskaskia*, *Sabine*, *Cimarron*, *Platte*, *Salamonie*, 3—5 inch; *Cacapon*, 4 single 3 inch, 50 cal., *Chipola*, 2—3 mm., 50 cal.). Armament varies in this class
Machinery:	Geared turbines. 2 shafts. S.H.P.: 13,500=18.8 kts.
Boilers:	4 Foster-Wheeler (except *Cimarron*, 4 Babcock & Wilcox)
Radius:	Reported to be 18,000 miles
Cargo capacity:	Exceeds 6,000,000 gallons
Complement:	64

Notes

AO 97, 51, 56, 52, 53, 98, 99, 30, 54, 63, 100, 22, 55, 32, 27, 58, 57, 60, 24, 25, 26, 61, 62, 64, respectively. War losses: *Mississinewa*, *Neosho*. Photograph of *Salomonie* in 1957-58 edition. *Chikaskia* and *Chipola* recommissioned from the Maritime Reserve Fleet in 1960, and *Kaskaskia* and *Sabine* in 1961. Two of this class are to be modernised and "Jumboised" under the 1963 Conversion Program, and re-armed with 8—3 inch, 50 cal. guns on twin mounts, two forward and two aft. A new central tank section will make them 90 feet longer.

4 "T2-A" Type

KANKAKEE (ex-*Colina*, 1941)
KENNEBEC (ex-*Corsicana*, 1940)
MATTAPONI (ex-*Kalkay*, 1942)
NECHES (ex-*Askal*, 1941)

Displacement:	6,013 tons *light* (21,580 tons *full load*)
Dimensions:	502 (*o.a.*) × 68 × 30¾ (*max.*) feet
Guns:	8—40 mm. AA.
Machinery:	Turbine. 1 shaft. S.H.P.: 12,000=16.7 kts.
Boilers:	2 Babcock & Wilcox

Notes

AO 39, 36, 41 and 47 respectively. Reacquired, returned to Navy and recommissioned in 1961. A photograph of *Kennebec* appears in the 1949-50 to 1957-58 editions, and of *Mattaponi* in the 1957-58 to 1960-61 editions.

Recent Disposals

Both of the oilers of the "T3-S-A1" type, namely *Enoree*, AO 69, and *Nionrara*, AO 72, were stricken from the Navy List in Dec. 1958.

Three oilers of the "T2-A" type, namely *Merrimack*, AO 37, *Monagahela*, AO 42, and *Tappahannock*, AO 43, were stricken from the Navy List in Dec. 1958.

The ex-German fleet replenishment ship *Conecuh*, AO 110 (ex-*Dithmarchen*, IX301) was stricken in 1960.

ICEBREAKERS (AGB)



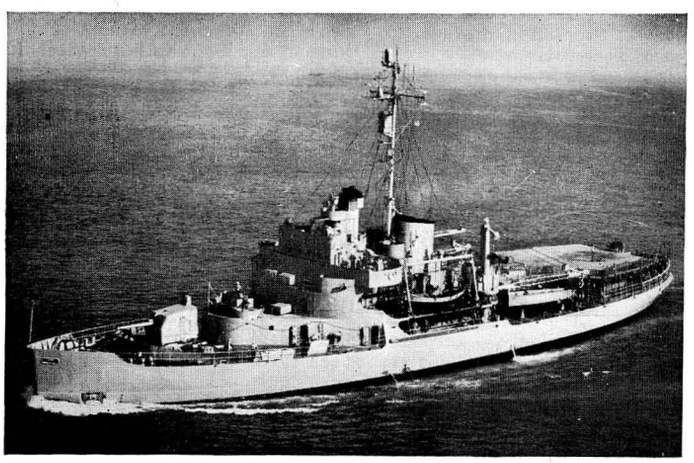
GLACIER 1962, *United States Navy, Official*

AGB 4 GLACIER

Displacement:	5,100 tons *light* (8,775 tons *full load*)
Dimensions:	310×74×29 feet
Aircraft:	2 Helicopters
Guns:	2—5 inch 38 cal. twin mount; 6—3 inch, 50 cal in enclosed twin mounts; 6—20 mm. AA.
Machinery:	10 Fairbanks Morse diesels and 2 Westinghouse 10,500 H.P. electric motors. 2 shafts. S.H.P.: 16,900=16 kts. (12 kts. cruising)
Complement:	339 (19 officers, 320 men)

Notes

Designed and built by Ingall's Shipbuilding Corporation, Pascagoula, Mississippi. Laid down on 3 Aug. 1953, launched on 27 Aug. 1954 and commissioned on 27 May 1955. Ample stowage for fuel and provisions. Designed for breaking ice more than 20 feet thick, and her bow is heavily armoured for driving the ship on top of the ice field and crushing it by sheer weight. Helicopters are carried to spot the best course through the ice. Largest and highest powered American icebreaker yet built. Has largest capacity single-armature D.C. motors ever built and installed in a ship. Carries an LCVP in addition to five boats and rafts for entire ship's company. Thick double hull.



BURTON ISLAND *Added 1958, Ted Stone*

4 "Wind" Class

ATKA (ex-*Southwind*) **EDISTO**
BURTON ISLAND **STATEN ISLAND** (ex-*Northwind*)

Displacement:	3,500 tons *light* (6,500 tons *full load*)
Dimensions:	250 (*pp.*), 269 (*o.a.*)×63½×25¾ (*mean*), 29 (*max.*) feet
Guns:	1—5 inch, 38 cal. (see *Notes*)
Machinery:	6 diesels with electric drive. 2 shafts. SH..P.: 13,300=16 kts.
Complement:	234

Notes

All built by the Western Pipe & Steel Co., San Pedro, California. Entirely welded construction, with double hull. The hull is 1⅛ inches thick. Forward shaft removed, armament reduced. Equipment includes helicopter aft. The four 40 mm. AA. guns were removed in 1961. A photograph of *Edisto* appears in the 1956-57 and 1957-58 editions.

No.	*Ex-No.*	*Name*	*Launched*	*Completed*
AGB 3	WAGB 280	*Atka*	8 Mar. 1943	15 July 1944
AGB 1	AG 88	*Burton Island*	30 Apr. 1946	28 Dec. 1946
AGB 2	AG 89	*Edisto*	29 May 1946	20 Mar. 1947
AGB 5	WAGB 278	*Staten Island*	28 Dec. 1942	15 Feb. 1944

AUXILIARY OCEAN TUGS (ATA)

18 "Maricopa" Class

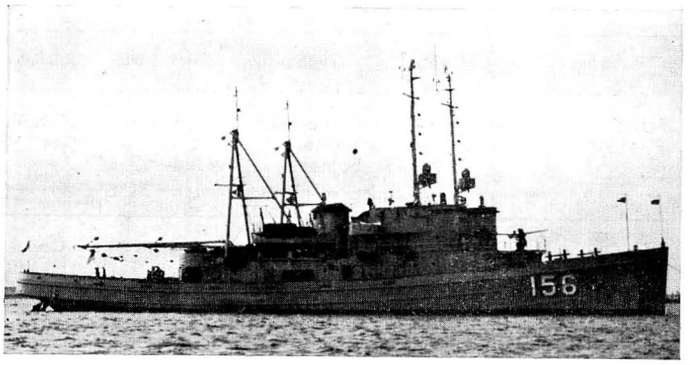
ACCOKEEK (ATA 181) **SAGAMORE** (ATA 208)
ALLEGHENY (ATA 179) **SALISH** (ATA 187)
CAHOKIA (ATA 186) **SAMOSET** (ATA 190)
CATAWBA (ATA 210) **STALLION** (ATA 193)
KALMIA (ATA 184) **SUNNADIN** (ATA 197)
KEYWADIN (ATA 213) **TATNUCK** (ATA 195)
KOKA (ATA 185) **TILLAMOOK** (ATA 192)
MAHOPAC (ATA 196) **UMPQUA** (ATA 209)
PENOBSCOT (ATA 188) **WANDANK** (ATA 204)

Displacement:	534 tons *standard* (835 tons *full load*)
Dimensions:	134½ (*w.l.*), 143 (*o.a.*)×33⅜×13 feet
Guns:	1—3 inch dual purpose
Machinery:	2 diesel-electric. B.H.P.: 1,500=13 kts.

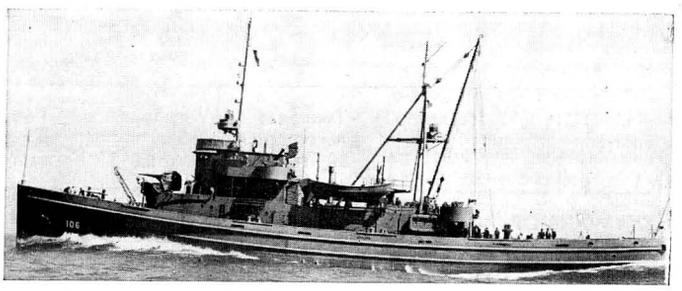
Notes

Ex-ATRs (Ocean Rescue Tugs) which were reclassified. All launched in 1943-45. Many are in reserve. *Bagaduce* was transferred to the Maritime Administration in 1958 and then to the U.S. Coast Guard in 1959. *Wampanoag* was transferred to the Coast Guard in 1959. *Algorma*, ATA 212, *Challenge*, ATA 201, *Geronimo*, ATA 207, *Juka*, ATA 123, *Navajo*, ATA 211, *Navigator*, ATA 203, *Nottaway*, ATA 183, *Reindeer*, ATA 189, and *Sciota*, ATA 205, *Sonoma*, ATA 175, *Sotoyoma*, ATA 121, *Tunica*, ATA 178, *Tuscarora*, ATA 245 (ex-YTB 341), *Unadilla*, ATA 182, and *Undaunted*, ATA 199, were stricken from the List of Naval Vessels and transferred to the Maritime Administration National Defence Reserve Fleet in 1961. *Wateree*, ATA 174, was sold to Peru in Nov. 1961. *Keosanqua*, ATA 198, and *Pinola*, ATA 206, were transferred to Korea on 1 Feb. 1962. *Tonkawa*, ATA 176, was transferred to Taiwan China on 5 Apr. 1962.

FLEET OCEAN TUGS (ATF)



LUISENO, *Papago* in rear (earlier funnel type) 1958, *courtesy Godfrey H. Walker, Esq.*



MOLALA (later no funnel type) *Added 1950, U S. Navy, Official*

37 "Apache" Class

ABNAKI (22 Apr. 1943) ATF 96
APACHE (8 May 1942) ATF 67
ARIKARA (22 June 1943) ATF 98
ATAKAPA (11 July 1944) ATF 149
BANNOCK (17 Jan. 1943) ATF 81
CARIB (7 Feb. 1943) ATF 82
CHAWASHA (15 Sep. 1944) ATF 151
CHICKASAW (23 July 1942) ATF 83
CHIMARIKO (30 Dec. 1944) ATF 154
CHOWANOC (20 Aug. 1943) ATF 100
COCOPA (5 Oct. 1943) ATF 101
CREE (17 Aug. 1942) ATF 84
HIDATSA (29 Dec. 1943) ATF 102
HITCHITI (29 Jan. 1944) ATF 103
HOPI (17 Sep. 1942) ATF 71
JICARILLA (25 Feb. 1944) ATF 104
KIOWA (5 Nov. 1942) ATF 72
LIPAN (17 Sep. 1942) ATF 85
LUISENO (17 Mar. 1945) ATF 156
MATACO (14 Oct. 1942) ATF 86
MOCTOBI (25 Mar. 1944) ATF 105
MOLALA (23 Dec. 1942) ATF 106
MOSOSPELEA (7 Mar. 1945) ATF 158
MUNSEE (21 Jan. 1943) ATF 107
NIPMUC (12 Apr. 1945) ATF 157
PAIUTE (4 June 1945) ATF 159
PAKANA (3 Mar. 1943) ATF 108
PAPAGO (21 June 1945) ATF 160
QUAPAW (15 May 1943) ATF 110
SALINAN (20 July 1945) ATF 161
SENECA (2 Feb. 1943) ATF 91
SIOUX (27 May 1942) ATF 75
TAKELMA (18 Sep. 1943) ATF 113
TAWAKONI (28 Oct. 1943) ATF 114
TAWASA (22 Feb. 1943) ATF 92
UTE (24 June 1942) ATF 76
UTINA (31 Aug. 1945) ATF 163

Displacement:	1,235 tons *standard* (1,675 tons *full load*)
Dimensions:	195 (*w.l.*), 205 (*o.a.*)×38½×12 (*mean*), 15½ (*max.*) feet
Guns:	1—3 inch
Machinery:	4 sets diesels with electric drive. B.H.P.: 3,000=16.5 kts.
Complement:	85

Notes

Launch dates above. Fitted with powerful pumps and other salvage equipment. *Wateree* (ATF 117) lost. *Sarsi* (ATF 111) sank after striking a mine off Korea, 27 Aug. 1952. A photograph of *Sioux* appears in the 1950-51 to 1957-58 editions. *Chippewa*, ATF 69, *Moreno*, ATF 87, and *Narragansett*, ATF 88 were stricken in 1961, and *Shakri*, ATF 162, in 1962.

Achomawi, ATF 148, *Alsea*, ATF 97, *Pawnee*, ATF 74, *Potawatomi*, ATF 109, *Tenino*, ATF 115, and *Wenatchee*, ATF 118, were transferred to the Maritime Administration National Defence Reserve Fleet in 1961.

Avoyel and *Chilula* were transferred on loan to the U.S. Coast Guard in 1956.

Luiseno and *Papago* are fitted out as submarine rescue vessels like *Penguin* and *Skylark* (see earlier page). *Serrano*, ATF 112, was reclassified as a surveying ship, AGS 24, on 15 June 1960.

Yuma, ATF 94, was transferred to the Pakistan Navy on 25 Mar. 1959, and *Tekesta*, ATF 93 was loaned to Chile in 1960 for five years. *Cusabo*, ATF 155, was loaned to Ecuador in 1960 for five years. *Choctaw*, ATF 70, was transferred to Columbia in 1961, *Menominee*, ATF 73 to Indonesia in 1961, *Pinto*, ATF 90, to Peru in 1961, *Arapaho*, ATF 68, and *Cahuilla*, ATF 152, to Argentina in 1961, and *Tolowa*, ATF 116, to Venezuela in Feb. 1962.

4 LT Type

ATA **ATA**
240 (ex-U.S. Army *LT* 455) **242** (ex-U.S. Army *LT* 132)
241 (ex-U.S. Army *LT* 60) **243** (ex-U.S. Army *LT* 646)

Displacement:	534 tons *standard* (835 tons *full load*)
Dimensions:	143 (*o.a.*)×33⅛×13⅜ (*max.*) feet
Machinery:	Diesel-electric. B.H.P.: 1,500=13 kts.

Notes

All in the Reserve Fleet. T-ATA 239 (ex-*LT* 532) was returned to U.S. Army. T-ATA 244 (ex-*LT* 156) was stricken on 1 Nov. 1959. T-ATA 242 and T-ATA 243 were transferred to the Maritime Administration Reserve Fleet custody at Olympia, Washington in 1960, but remain on the Navy List.

Large Harbour Tugs (YTB)

YTB 752 EDENSHAW **YTB 753 MARIN**

Displacement:	400 tons
Dimensions:	108×28 feet
Machinery:	Diesel. S.H.P.: 1,800=14 kts. Controllable pitch propellers

Notes

Built by Christy Corp., Sturgeon Bay, Wis. Steel hulled. YTB 752 (named *Edenshaw*) is completed. YTB 753 (named *Marin*) was launched on 22 Apr. 1960.

The U.S. Navy has 56 Harbour Tugs, Big, listed under service craft, and designated YTB. up to 135 feet in length including 15 new ones, YTB 752-766. Four large harbour tugs built by Southern Shipbuilding Corp., Slidell, Louisiana, under the 1959 new construction program, YTB 756-759, *Bogalusa*, *Puducah*, *Pontiac* and *Oshkash*, completed in 1961, are of 356 tons and 103 feet (*o.a.*). Another YTB of 265 tons was requested in the Fiscal Year 1960 program, YTB 760, 761, 762 in the 1961 Program, and YTB 763, 764, 765 and 766 in the 1962 Program (Southern Shipbuilding Corporation).

Medium Harbour Tugs (YTM)

Notes

143 large harbour tugs, YTB 129-746, from 91 feet in length, were reclassified as medium harbour tugs, YTM 129-746 in Feb. 1962.

There were formerly 2 Harbour Tugs, Medium, officially designated YTM, of 110 feet in length.

Small Harbour Tugs

Notes

All of the 90 Harbour Tugs, Little, designated YTL, ranging from 66 to 83 feet in length were reclassified as small boats in 1962, and the YTL designation removed.

UNITED STATES NAVY CARRIER BORNE AIRCRAFT

Name	*Maker*	*Type*	*Dimensions*	*Power Plant*	*Armament*	*Performance*	*Notes*
FURY FJ-4	North American	Single-Seat Fighter-bomber	Wing Span 39′ 1″ Folded 27′ 6″ Length 36′ 6″	One Wright J65 turbo-jet	Four 20 mm. cannon and missiles	Max. speed over 690 m.p.h.	FJ-4B is low level attack version.
DEMON F3H-2N	McDonnell	Single-Seat All weather Fighter	Wing Span 35′ 4″ Length 58′ 11″	One Allison J71 turbo-jet with afterburner	Four 20 mm. cannon and missiles	Max. speed 730 m.p.h. Range 1,500 miles	F3H-2P is photo. recon. version. F3H-2M is missile armed day-fighter
CRUSADER II F8U-2	Chance Vought	Single-Seat Fighter	Wing Span 35′ 8″ Folded 22′ 6″ Length 54′ 3″	One Pratt & Whitney J57 turbojet with after-burner	Four 20 mm. cannon, missiles and unguided rockets	Max. speed approx. 1,200 m.p.h. Range 560 miles	F8U-1 similar but lower-powered. F8U-1P is photo. recon. version. F8U-2N is all-weather model with increased armament.
PHANTOM II F4H-1	McDonnell	Two-Seat All weather Fighter	Wing Span 38′ 5″ Length 58′ 3″	Two General Electric J79 turbojets with afterburners	Missiles	Max. speed over 1,500 m.p.h.	Is replacing Skyray and Demon.
SKYWARRIOR A3D-2	Douglas	Attack Bomber	Wing Span 72′ 6″ Length 75′ 8″	Two Pratt & Whitney J57 turbojets	Two 20 mm. cannon and nuclear weapons	Max. speed 610 m.p.h. Range over 2,800 miles	A3D-2Q is radar countermeasures version. A3D-2P is photo. recon. version. A3D-2T is bombardier trainer
SKYHAWK A4D-2N A4D-5	Douglas	Single-Seat Light Attack Bomber	Wing Span 27′ 6″ Length 40′ 2″ (A4D-5, Length 41′ 3″)	One Wright J65 turbo-jet (A4D-5 One Pratt & Whitney J52 turbo-jet)	Two 20 mm. cannon, torpedo, missiles or nuclear weapons	Max. speed 680 m.p.h. Range over 2,000 miles	A4D-1 and A4D-2 are earlier versions without complete all weather capabilities A4D-5 has more powerful Pratt & Whitney J52 engine
VIGILANTE A3J-1 A3J-3	North American	Two-Seat Attack Bomber	Wing Span 53′ Length 73′	Two General Electric J79 turbojets with afterburners	Includes Air-to-Surface Missiles and thermo-nuclear weapons	Max. speed over 1,300 m.p.h.	To operate from *Forrestal* class carriers. Weapons ejected from tunnel in tail
INTRUDER A2F-1	Grumman	Two-Seat Attack Bomber	Wing Span 53′ Length 53′ 5″	Two Pratt & Whitney J52 turbojets	Missiles and bombs	Max. speed 685 m.p.h.	For high-subsonic attack at low levels.
TRACKER S2F-3	Grumman	Four-Seat Submarine Search and Attack	Wing Span 72′ 7″ Length 43′ 6″	Two Wright R-1820-82A engines	Homing torpedo, atomic depth charge, rockets, etc.	Max. speed at sea level, 280 m.p.h.	S2F-1 and 2 are earlier versions with shorter span and length. TRACER WF-2 is radar early warning version.
HAWKEYE W2F-1	Grumman	Five-Seat Early Warning Aircraft	Wing Span 80′ 7″ Length 56′ 4″	Two Allison T56 turbo-props	None	Secret	To replace WF-2 Tracer. Carries radar "Saucer" above fuselage.
HO4S-1, 2, 3	Sikorsky	Mult-Seat or Anti-Submarine Helicopters	Rotor Dia. 53′ Fuselage Length 42′ 3″	One Pratt & Whitney R-1340 engine (HO4S-1) and 2). R-1300 engine (HO4S-3)	Normally none	Max speed (R-1340) 101 m.p.h. (R-1300) 112 m.p.h.	
HUK-1	Kaman	Four or Five-Seat Helicopter	Rotor Dia. 47′ Fuselage Length 25′	One Pratt & Whitney R-1340-48 radial engine	None	Max. speed 109 m.p.h. Range 220 miles	HOK-1 similar
SEASPRITE HU2K-1	Kaman	Multi-Seat Helicopter	Rotor Dia. 44′ Fuselage Length 37′	One General Electric T58 shaft-turbine	None	Max. speed 162 m.p.h. Range 610 miles	For transport (13 passengers), rescue and ambulance duties
RETRIEVER HUP-2, 3	Vertol (Boeing)	Helicopter	Rotor Dia. 35′ Fuselage Length 32′	One Continental R-975-46 engine	None	Max. speed 105 m.p.h. Range 340 miles	For transport, rescue and ambulance duties.
SEABAT HSS-IN	Sikorsky	Anti-Submarine Helicopter	Rotor Dia. 56′ Fuselage Length 46′ 9″	One Wright R-1820-84 radial air-cooled engine	Homing torpedo	Max.speed 134 m.p.h. Range 225 miles	Also Marine HUS-1
SEADRAGON HSS-2	Sikorsky	Anti-Submarine Helicopter	Rotor Dia. 62′ Fuselage, Length 54′ 9″	Two General Electric T58 shaft-turbine engines	Homing torpedoes and rockets	Max. speed 150 m.p.h.	Amphibious. Entering service

Also SEAHORSE HUS-1, and SEAKNIGHT, HRB-1.

UNITED STATES NAVY GUIDED MISSILES

Category	Name	Maker	Overall Length Ft.	Propulsion	Speed Mach.	Range Miles	Guidance System	Notes
AIR TO AIR	SPARROW III AAM-N-6	Raytheon	12	Thiokol liquid propellent (storable)	2·5	5	Semi-active homing	Arms F3H-2M and F4H-1 fighters
	SIDEWINDER 1A/IC AAM-N-7	Philco and General Electric	9·2	Naval Powder Plant solid propellent	2·5	2·1	Infra-red homing	Also advanced Sidewinder IC with improved guidance
AIR TO SURFACE	BULLPUP ASM-N-7A	Martin	10·5	Thiokol liquid propellent (storable)	1·8	·3	Command	Built around standard 250 lb. bomb and other warheads. Improved ASM-N-7B under development.
	SHRIKE							Anti-Radar missile.
SURFACE TO AIR	TALOS SAM-N-6 C1	Bendix	32·3	Bendix ramjet. Solid propellent booster	2·5	65 slant	Beam riding cruise phase. Semi-active homing	Carried by cruisers. High explosive or nuclear warhead. Also used in surface-to-surface role.
	ADVANCED TERRIER	General Dynamics	27	Allegany Ballistics Solid - propellent. Solid - propellent booster.	3·0	20 slant	Beam rider. Homing all the way.	Carried by frigates and smaller warships, as well as large ships.
	TARTAR (Improved)	General Dynamics	15	Aerojet-General solid propellent	2 0	17·5 slant	Homing	Carried by destroyers and as secondary armament in cruisers.
	TYPHON	Applied Physics Lab. Johns Hopkins Univ.	46	Bendix ramjet. Solid - propellent booster.	5	200	Active homing.	Weapon system to employ Super-Talos and Super-Tartar missiles. Data apply to Super-Talos. 1963 DLGs are first to have built-in Typhon.
SURFACE TO SURFACE	POLARIS A-1	Lockheed	28	Aerojet-General solid propellent. Hercules Powder.	10	1,380	Inertial (M.I.T. design) (Manuf. G.E. & Hughes Aircraft)	Bombardment missile of Fleet Ballistic Missile System, carried by nuclear- powered submarines and capable of submerged launch. Three classes of nuclear powered fleet ballistic missile submarines (SSBN), " George Washington " class, " Ethan Allen " class, and " Lafayette " class, all carry 16 Polaris missiles each.
	A-2	,,	30·5		12	1,725		
	A-3	,,	31		15	2,875		

ANTI-SUBMARINE WEAPONS

TERNE 3 — Norwegian designed ASW missile and system (in escorts *Charles Berry* and *McMorris*).

WEAPON ALFA — A 12·75 in. anti-submarine rocket weighing 500 lbs., fired at a detected submarine from a launcher with an almost cicular field of fire.

ASROC (Anti-Submarine Rocket) — Developed by Minneapolis-Honeywell, a rocket propelled torpedo for use by surface ships. After an aerial trajectory to the vicinity of a target, enters the water and homes acoustically. Nuclear warhead optional. 15 ft. anti-submarine rocket declared combat ready in mid-June 1960. Weight approx. 1,000 lb.

SUBROC (Submarine Rocket) — Under development by Goodyear Aircraft Corporation, a rocket propelled missile about 22 ft. in length, to be launched from surfaced or from submerged submarines, emerges from the water and after an aerial trajectory to the vicinity of the target is guided by sonar equipment from the launching vessel to dive down on enemy submarines. Has range considerably greater than present ASW weapons). Nuclear warhead optional.

ASTOR — An anti-submarine torpedo with nuclear warhead, under development by Westinghouse. Extremely high reliability and accuracy Capable of destroying deep-diving, high speed submarines.

DASH — Drone anti-submarine helicopter for use by destroyers. Helicopter carries ASW torpedo released remotely by destroyer after being positioned over target.

UNITED STATES NAVY SERIAL NUMBERS

CVAN—Nuclear Powered Attack Aircraft Carrier

65 Enterprise

CVA—Attack Aircraft Carriers

14 Ticonderoga
19 Hancock
31 Bon Homme Richard
34 Oriskany
38 Shangri-La
41 Midway
42 Franklin D. Roosevelt
43 Coral Sea
59 Forrestal
60 Saratoga
61 Ranger
62 Independence
63 Kitty Hawk
64 Constellation
66 America

CVS—Support Aircraft Carriers

9 Essex
10 Yorktown
11 Intrepid
12 Hornet
15 Randolph
16 Lexington
18 Wasp
20 Bennington
33 Kearsarge
36 Antietam
39 Lake Champlain

LPH—Amphibious Assault Ships

2 Iwo Jima
3 Okinawa
4 Boxer (ex-CVS 21)
5 Princeton (ex-CVS 37)
6 Thetis Bay (ex-CVHA 1, ex-CVE 90)
7 Guadalcanal
8 Valley Forge (ex-CVS 45)
9

AVT—Auxiliary Aircraft Transports

2 Monterey (ex-CVL 26)
3 Cabot (ex-CVL 28)
5 San Jacinto (ex-CVL 30)
8 Franklin (ex-CVS 13)
9 Bunker Hill (ex-CVS 17)
10 Leyte (ex-CVS 32)
11 Philippine Sea (ex-CVS 47)
12 Tarawa (ex-CVS 40)

AKV—Aircraft Ferry and Cargo Ships

8 Kula Gulf (ex-CVE 108)
9 Cape Gloucester (ex-CVHE 109)
11 Vella Gulf (ex-CUHE 111)
12 Siboney (ex-CVE 112)
14 Rendova (ex-CVE 114)
16 Badoeing Strait (ex-CVE 116)
17 Saidor (ex-CVHE 117)
19 Point Cruz (ex-CVE 119)
21 Rabaul (ex-CVHE 121)
23 Tinian (ex-CVHE 123)
37 Commencement Bay (ex-CVHE 105)
39 Gilbert Islands (ex-CVE 107)
40 Card (ex-CVU 11, ex-CVHE 11)
41 Core (ex-CVU 13, ex-CVHE 13)
42 Breton (ex-CVU 23, ex-CVHE 23)
43 Croatan (ex-CVU 25, ex-CVHE 25)

BB—Battleships

61 Iowa
62 New Jersey
63 Missouri
64 Wisconsin

CC—Command Ships

1 Northampton (ex-CLC 1, ex-CA 125)
2 Wright (ex-AVT 7, ex-CVL 49)
3 Saipan (ex-AVT 6, ex-CVL 48)

CGN—Nuclear Powered Guided Missile Cruiser

9 Long Beach

CG—Guided Missile Cruisers

10 Albany
11 Chicago
12 Columbus

CAG—Guided Missile Heavy Cruisers

1 Boston
2 Canberra

CLG—Guided Missile Light Cruisers

3 Galveston
4 Oklahoma City
5 Little Rock
6 Providence
7 Springfield
8 Topeka

CA—Heavy Cruisers

68 Baltimore
71 Quincy
72 Pittsburgh
73 St. Paul
75 Helena
122 Oregon City
124 Rochester
130 Bremerton
131 Fall River
132 Macon
133 Toledo
134 Des Moines
135 Los Angeles
139 Salem
148 Newport News

CL—Light Cruisers

64 Vincennes
65 Pasadena
86 Vicksburg
90 Astoria
101 Amsterdam
102 Portsmouth
103 Wilkes Barre
104 Atlanta
106 Fargo
144 Worcester
145 Roanoke

CLAA—Anti-Aircraft Light Cruisers

97 Flint
98 Tucson
120 Spokane
121 Fresno

DLGN—Nuclear Powered Guided Missile Destroyer Leaders (Frigates)

25 Bainbridge
35

DLG—Guided Missile Destroyer Leaders (Frigates)

6 Farragut
7 Luce
8 Macdonough
9 Coontz
10 King
11 Mahan
12 Dahlgren
13 William V. Pratt
14 Dewey
15 Preble
16 Leahy
17 Harry E. Yarnell
18 Worden
19 Dale
20 Richmond K. Turner
21 Gridley
22 England
23 Halsey
24 Reeves
26 Belknap
27
28
29
30
31
32
33
34

DL—Destroyer Leaders (Frigates)

1 Norfolk (ex-CLK 1)
2 Mitscher (ex-DD 927)
3 John S. McCain (ex-DD 928)
4 Willis A. Lee (ex-DD 929)
5 Wilkinson (ex-DD 930)

DDG—Guided Missile Destroyers

1 Gyatt (ex-DDG 712)
2 Charles F. Adams (ex-DDG 952)
3 John King (ex-DDG 953)
4 Lawrence (ex-DDG 954)
5 Biddle (ex-DDG 955)
6 Barney (ex-DDG 956)
7 Henry B. Wilson (ex-DDG 957)
8 Lynde McCormick (ex-DDG 958)
9 Towers
10 Sampson
11 Sellers
12 Robinson
13 Hoel
14 Buchanan
15 Berkeley
16 Joseph Strauss
17 Conygham
18 Semmes
19 Tattnall
20 Goldsborough
21 Cochrane
22 Benjamin Stoddert
23 Richard E. Byrd
24 Waddell

DD—Destroyers

422 Mayo
423 Gleaves
424 Niblack
425 Madison
432 Kearny
435 Grayson
437 Woolsey
439 Edison
440 Ericsson
441 Wilkes
443 Swanson
445 Fletcher
446 Radford
447 Jenkins
448 La Vallette
449 Nicholas
450 O'Bannon
455 Hambledon
462 Fitch
465 Saufley
466 Waller
468 Taylor
470 Bache
471 Beale
472 Guest
474 Fullam
475 Hudson
478 Stanley
479 Stevens
480 Halford
489 Mervine
490 Quick
491 Farenholt
492 Bailey
493 Carmick
494 Doyle
495 Endicott
496 McCook
497 Frankford
498 Philip
499 Renshaw
501 Schroeder
502 Sigsbee
507 Conway
508 Cony
510 Eaton
511 Foote
513 Terry
517 Walker
519 Daly
521 Kimberly
528 Mullany
530 Trathen
531 Hazelwood
534 McCord
535 Miller
536 Owen
537 Sullivans
538 Stephen Potter
539 Tingey
540 Twining
541 Yarnall
544 Boyd
547 Cowell
553 John D. Henley
558 Laws
561 Pritchett
562 Robinson
563 Ross
564 Rowe
565 Smalley
566 Stoddard
567 Watts
568 Wren
573 Harrison
574 John Rodgers
575 McKee
576 Murray
577 Sproston
578 Wickes
580 Young
585 Haraden
587 Bell
588 Burns
589 Izard
590 Paul Hamilton
593 Killen
594 Hart
595 Metcalfe
596 Shields
597 Wiley
598 Bancroft
600 Boyle
601 Champlin
602 Meade
603 Murphy
604 Parker
605 Caldwell
606 Coghlan
607 Frazier
608 Gansevoort
609 Gillespie
610 Hobby
611 Kalk
612 Kendrik
613 Laub
614 Mackenzie
615 McLanahan
616 Nields
617 Ordronaux
618 Davison
619 Edwards
621 Jeffers
623 Nelson
626 Satterlee
627 Thompson
628 Welles
629 Abbott
630 Braine
631 Erben
632 Cowie
633 Knight
634 Doran
635 Earle
637 Gherardi
638 Herndon
641 Tillman
643 Sigourney
645 Stevenson
646 Stockton
647 Thorn
649 Albert W Grant
650 Caperton
651 Cogswell
652 Ingersoll
654 Bears
655 John Hood
656 Van Valkenburgh
657 Charles J. Badger
658 Colahan
659 Dashiell
660 Bullard
661 Kidd
662 Bennion
665 Bryant
666 Black
667 Chauncey
668 Clarence K. Bronson
669 Cotton
671 Gatling
672 Healy
673 Hickox
674 Hunt
675 Lewis Hancock
676 Marshall
677 McDermutt
679 McNair
680 Melvin
681 Hopewell
682 Porterfield
683 Stockham
684 Wedderburn
685 Picking
686 Halsey Powell
687 Uhlmann
688 Remey
689 Wadleigh
690 Norman Scott
691 Mertz
692 Allen M. Sumner
693 Moale
694 Ingraham
696 English
697 Charles S. Sperry
698 Ault
699 Waldron
700 Haynsworth
701 John W. Weeks
702 Hank
703 Wallace L. Lind
704 Borie
705 Compton
706 Gainard
707 Soley
708 Harlan R. Dickson
709 Hugh Purvis
710 Gearing
711 Eugene A. Greene/DDR
713 Kenneth D. Bailey/DDR
714 William R. Rush/DDR
715 William W. Wood/DDR
716 Wiltsie
717 Theo E. Chandler
718 Hammer
719 Epperson/DDE
722 Barton
723 Walke
724 Laffey
725 O'Brien
727 De Haven
728 Mansfield
729 Lyman K. Swenson
730 Collett
731 Maddox
732 Hyman
734 Purdy
742 Frank Knox/DDR
743 Southerland/DDR
744 Blue

U.S.N. Serial Numbers—*continued*

DD—Destroyers—*continued*

745 Brush
746 Taussig
747 Samuel L. Moore
748 Harry E. Hubbard
752 Alfred A. Cunningham
753 John R. Pierce
754 Frank E. Evans
755 John A. Bole
756 Beatty
757 Putnam
758 Strong
759 Lofberg
760 John W. Thomason
761 Buck
762 Henley
763 William C. Lawe
764 Lloyd Thomas /DDE
765 Keppler/DDE
770 Lowry
775 Willard Keith
776 James C. Owens
777 Zellars
778 Massey
779 Douglas H. Fox
780 Stormes
781 Robert K. Huntington
782 Rowan
783 Gurke
784 McKean/DDR
785 Henderson
786 Richard B. Anderson
787 James K. Kyes
788 Hollister
789 Eversole
790 Shelton
793 Cassin Young
794 Irwin
795 Preston
798 Monssen
800 Porter
802 Gregory
804 Rooks
805 Chevalier/DDR
806 Higbee/DDR
807 Benner/DDR
808 Dennis J Buckley/DDR
817 Corry/DDR
818 New/DDE
819 Holder/DDE
820 Rich/DDE
821 Johnston
822 Robert H. McCard
823 Samuel B. Roberts
824 Basilone/DDE
825 Carpenter/DDE
826 Agerholm
827 Robert A. Owens/DDE
829 Myles C. Fox/DDR
830 Everett F. Larson/DDR
831 Goodrich/DDR
832 Hanson/DDR
833 Herbert J. Thomas/DDR
834 Turner/DDR
835 Charles P. Cecil/DDR
836 Georges K Mackenzie
837 Sarsfield/DDE
838 Ernest G. Small/DDR
839 Power
840 Glennon
841 Noa
842 Fiske/DDR
843 Warrington
844 Perry
845 Bausell
846 Ozbourn
847 Robert L. Wilson/DDE
848 Witek/DDE
849 Richard E. Kraus
850 Joseph P. Kennedy jr.
851 Rupertus
852 Leonard F. Mason
853 Charles A. Roan
857 Bristol
858 Fred T. Berry/DDE
859 Morris/DDE
860 McCaffery/DDE
861 Harwood/DDE
862 Vogelgesang
863 Steinaker/DDR
864 Harold J. Ellison
865 Charles R.Ware
866 Cone
867 Stribling
868 Brownson
869 Arnold J. Isbell
870 Fechteler/DDR
871 Damato/DDE
872 Forrest Royal
873 Hawkins/DDR
874 Duncan/DDR
875 Henry W. Tucker/DDR
876 Rogers/DDR
877 Perkins/DDR
878 Vesole/DDR
879 Leary/DDR
880 Dyess/DDR
881 Bordelon/DDR
882 Furse/DDR
883 Newman K. Perry/DDR
884 Floyd B. Parks
885 John R. Craig
886 Orleck
887 Brinkley Bass
888 Stickell/DDR
889 O'Hare/DDR
890 Meredith
931 Forrest Sherman
932 John Paul Jones
933 Barry
936 Decatur
937 George F. Davis
938 Jonas Ingram
940 Manley
941 Dupont
942 Bigelow
943 Blandy
944 Mullinnix
945 Hull
946 Edson
947 Somers
948 Morton
949 Parsons
950 Richard S. Edwards
951 Turner Joy

DEG—Guided Missile Escort Ships

1
2
3
4
5
6

DE—Escort Ships

51 Buckley
57 Fogg
59 Foss
129 Edsall
130 Jacob Jones
131 Hammann
132 Robert E. Peary
133 Pillsbury/DER
134 Pope
135 Flaherty
137 Herbert C. Jones
138 Douglas L. Howard
139 Farquhar
140 J.R.Y. Blakeley
141 Hill
142 Fessenden/DER
144 Frost
145 Huse
146 Inch
147 Blair/DER
148 Brough
149 Chatelain
150 Neunzer
151 Poole
152 Peterson/DE(A/S)
153 Reuben James
162 Levy
163 McConnell
164 Osterhaus
165 Parks
167 Acree
170 Booth
171 Carroll
172 Cooner
176 Micka
180 Trumpeter
181 Straub
191 Coffman
198 Lovelace
199 Manning
200 Neuendorf
201 James E. Craig
202 Eichenberger
203 Thomason
210 Otter
213 William T. Powell
214 Scott
217 Coolbaugh
218 Darby
219 J. Douglas Blackwood
220 Francis M. Robinson
222 Fowler
223 Spangenberg
224 Rudderow
225 Day
231 Hodges
238 Stewart
239 Sturtevant/DER
240 Moore
241 Keith
242 Tomich
243 J. Richard Ward
244 Otterstetter/DER
245 Sloat
246 Snowden
247 Stanton
248 Swasey
249 Marchand
250 Hurst
251 Camp/DER
252 Howard D. Crow
253 Pettit
254 Ricketts
255 Sellstrom/DER
316 Harveson/DER
317 Joyce/DER
318 Kirkpatrick/DER
320 Menges
321 Mosley
322 Newell/DER
323 Pride
324 Falgout/DER
325 Lowe/DER
326 Thomas J. Gary/DER
327 Brister/DER
328 Finch/DER
329 Kretchmer/DER
330 O'Reilly/DEAS
331 Koiner/DER
332 Price/DER
333 Strickland/DER
334 Forster/DER
335 Daniel
336 Roy O. Hale/DER
337 Dale W. Peterson
338 Martin H. Ray
339 John C. Butler
340 O'Flaherty
341 Raymond
342 Richard A. Suesens
343 Abercrombie
345 Robert Brazier
346 Edwin A. Howard
347 Jesse Rutherford
348 Key
349 Gentry
350 Traw
351 Maurice J. Manuel
352 Naifeh
353 Doyle C. Barnes
354 Kenneth M.Willett
355 Jacard
356 Lloyd E. Acree
357 George E. Davis
358 Mack
359 Woodson
360 Johnnie Hutchins
361 Walton
362 Rolf
363 Pratt
364 Rombach
365 McGinty
366 Alvin C. Cockrell
367 French
368 Cecil J. Doyle
369 Thaddeus Parker
370 John L. Williamson
371 Presley
372 Williams
382 Ramsden/DER
383 Mills/DER
384 Rhodes/DER
385 Richey
386 Savage/DER
387 Vance/DER
388 Lansing/DER
389 Durant/DER
390 Calcaterra/DER
391 Chambers/DER
392 Merrill
393 Haverfield/DER
394 Swenning
395 Willis
396 Janssen
397 Wilhoite/DER
398 Cockrill
399 Stockdale
400 Hissem/DER
402 Richard S. Bull
403 Richard M. Rowell
405 Dennis
406 Edmonds
408 Straus
409 La Prade
410 Jack Miller
411 Stafford
412 Walter C. Wann
414 Le Ray Wilson
415 Lawrence C. Taylor
416 Melvin R. Nawman
417 Oliver Mitchell
418 Tabberer
419 Robert F. Keller
420 Leland E. Thomas
421 Chester T. O'Brien
422 Douglas A. Munro
423 Duffilho
424 Haas
438 Corbesier
439 Conklin
441 William Seiverling
442 Ulvert M. Moore
443 Kendale C. Campbell
444 Goss
445 Grady
446 Charles E. Brannon
447 Albert T. Harris
448 Cross
449 Hanna
450 Joseph E. Connolly
508 Gilligan
510 Heyliger
531 Edward H. Allen
532 Tweedy/DEAS
533 Howard F. Clark
534 Silverstein
535 Lewis/DEAS
536 Bivin
537 Rizzi
538 Osberg
539 Wagner/DER
540 Vandivier/DER
575 Ahrens
577 Alexander J. Luke
578 Robert I. Paine
579 Riley
580 Leslie L. B. Knox
581 McNulty
582 Metivier
583 George A. Johnson
584 Charles J. Kimmel
585 Daniel A. Joy
586 Lough
587 Thomas J. Nickel
588 Pfeiffer
589 Tinsman
633 Foreman
634 Whitehurst
638 Willmarth
639 Gendreau
640 Fieberling
641 William C. Cole
642 Paul G. Baker
643 Damon M. Cummings
644 Vammen/DEAS
665 Jenks
666 Durik
667 Wiseman
678 Harmon
679 Greenwood
680 Loeser
681 Gillette
683 Henry R. Kenyon
684 De Long
685 Coates
686 Eugene L. Elmore
696 Spangler
697 George
698 Raby
699 Marsh
700 Currier
701 Osmus
702 Earl V. Johnson
703 Holton
704 Cronin
705 Fryberger
706 Holt
707 Jobb
708 Parle
742 Hilbert
743 Lamons
744 Kyne
745 Snyder
748 Tills
749 Roberts
750 McClelland
765 Earl K. Olsen
767 Oswald
769 Neal A. Scott
790 Borum
791 Maloy
795 Gunason
796 Major
797 Weeden
798 Varian
799 Scroggins
800 Jack W. Wilke
1006 Dealey
1014 Cromwell
1015 Hammerberg
1021 Courtney
1022 Lester
1023 Evans
1024 Bridget
1025 Bauer
1026 Hooper
1027 John Willis
1028 van Voorhis
1029 Hartley
1030 Joseph K. Taussig
1033 Claud Jones
1034 John P. Perry
1035 Charles Berry
1036 McMorris
1037 Bronstein
1038 McCloy
1043
1044
1045

SSBN—Nuclear Powered Fleet Ballistic Missile Submarines

598 George Washington
599 Patrick Henry
600 Theodore Roosevelt
601 Robert E. Lee
602 Abraham Lincoln
608 Ethan Allen
609 Sam Houston
610 Thomas A. Edison
611 John Marshall
616 Lafayette
617 Alexander Hamilton
618 Thomas Jefferson
619 Andrew Jackson
620 John Adams
622 James Monroe
623 Nathan Hale
624 Woodrow Wilson
625 Henry Clay
626 Daniel Webster
627 James Madison
628 Tecumseh
629 Daniel Boone
630 John C. Calhoun
631 Ulysses S. Grant
632
633
634 Stonewall Jackson
635
636 Nathanael Greene

SSGN—Nuclear Powered Guided Missile Submarine

587 Halibut

SSN—Nuclear Powered Attack Submarines

571 Nautilus
575 Seawolf
578 Skate
579 Swordfish
583 Sargo
584 Seadragon
585 Skipjack
586 Triton (ex-SSRN)
588 Scamp
589 Scorpion
590 Sculpin
591 Shark
592 Snook
593 Thresher
594 Permit
595 Plunger
596 Barb
597 Tullibee
603 Pollack
604 Haddo
605 Jack
606 Tinosa
607 Dace
612 Guardfish
613 Flasher
614 Greenling
615 Gato
621 Haddock
637
638
639

SSG—Guided Missile Submarines

282 Tunny
317 Barbero
574 Grayback
577 Growler

U.S.N. Serial Numbers—*continued*

SS—Submarines

214 Grouper/AG(SS), ex-SSK
224 Cod
225 Cero
228 Drum
236 Silversides
240 Angler (ex-SSK)
241 Bashaw AGSS (ex-SSK)
242 Bluegill (ex-SSK)
243 Bream (ex-SSK)
244 Cavalla (ex-SSK)
245 Cobia
246 Croaker (ex-SSK)
256 Hake
269 Rasher AGSS (ex-SSR)
270 Raton AGSS (ex-SSR)
272 Redfin (ex-SSR)
274 Rock AGSS (ex-SSR)
285 Balao AGSS
286 Billfish
287 Bowfin
288 Cabrilla AGSS
291 Crevalle
292 Devilfish
295 Hackleback
297 Ling
298 Lionfish
299 Manta/AG(SS)
300 Moray
301 Roncador
302 Sabalo
303 Sablefish
304 Seahorse
309 Aspro AGSS
310 Batfish
311 Archerfish AGSS
313 Perch/APSS
315 Sealion/APSS
318 Baya/AG(SS)
319 Becuna
321 Besugo
322 Blackfin
323 Caiman
324 Blenny
328 Charr
331 Bugara
334 Cabezon
335 Dentuda
336 Capitane AGSS
337 Carbonero (ex-SSG)
338 Carp
339 Catfish
340 Entemedor
341 Chivo
342 Chopper
343 Clagamore
344 Cobbler
346 Corporal
347 Cubera
348 Cusk AGSS (ex-SSG)
349 Diodon
350 Dogfish
351 Greenfish
352 Halfback
362 Guavina/AGSS
365 Hardhead
368 Jallao
374 Loggerhead
377 Menhaden
381 Sandlance
382 Picuda
383 Pampanito
384 Parche
385 Bang AGSS
387 Pintado
388 Pipefish
389 Piranha
390 Plaice
391 Pomfret
392 Sterlet
393 Queenfish AGSS
394 Razorback
395 Redfish AGSS
396 Ronquil
397 Scabbardfish
398 Segundo
399 Seacat
400 Seadevil AGSS
401 Seadog
402 Seafox
403 Atule
404 Spikefish
405 Sea Owl
406 Sea Poacher
407 Sea Robin
408 Sennet
409 Piper
410 Threadfin
411 Spadefish
412 Trepang
416 Tiru
417 Tench
418 Thornback
419 Tigrone (ex-SSR)
420 Tirante
421 Trutta
422 Toro
423 Torsk
424 Quillback
425 Trumpetfish
426 Tusk
435 Corsair AGSS
475 Argonaut
476 Runner
477 Conger
478 Cutlass
479 Diablo
480 Medregal
481 Requin (ex-SSR)
482 Irex
483 Sea Leopard
484 Odax
485 Sirago
486 Pomodon

SS—Submarines—*continued*

487 Remora
488 Sarda
489 Spinax (ex-SSR)
490 Volador
522 Amberjack
523 Grampus
524 Pickerel
525 Grenadier
551 Bass (ex-SSK 2)
552 Bonita (ex-SSK 3)
555 Dolphin AGSS
563 Tang
564 Trigger
565 Wahoo
566 Trout
567 Gudgeon
568 Harder
569 Albacore/AGSS
572 Sailfish (ex-SSR)
573 Salmon (ex-SSR)
576 Darter
580 Barbel
581 Blueback
582 Bonefish

SST—Target Submarines

1 Mackerel
2 Marlin
3 Barracuda (ex-SSK 1)

DM—Destroyer Minelayers

23 Robert E. Smith
24 Thomas E. Fraser
25 Shannon
26 Harry F. Bauer
27 Adams
28 Tolman
29 Henry A. Wiley
30 Shea
32 Lindsey
33 Gwin

MMF—Fleet Minelayer

5 Terror

MCS—Mine Countermeasures Support Ship

2 Ozark

MSO—Ocean Minesweepers

421 Agile
422 Aggressor
423 Avenge
424 Bold
425 Bulwark
426 Conflict
427 Constant
428 Dash
429 Detector
430 Direct
431 Dominant
432 Dynamic
433 Elusive
434 Embattle
435 Endurance
436 Energy
437 Enhance
438 Esteem
439 Excel
440 Exploit
441 Exultant
442 Fearless
443 Fidelity
444 Firm
445 Force
446 Fortify
447 Guide
448 Illusive
449 Impervious
455 Implicit
456 Inflict
457 Loyalty
458 Lucid
459 Nimble
460 Notable
461 Observer
462 Pinnacle
463 Pivot
464 Pluck
466 Prime
467 Reaper
468 Rival
469 Sagacity
470 Salute
471 Skill
472 Valour
473 Vigor
474 Vital
488 Conquest
489 Gallant
490 Leader
491 Persistent
492 Pledge
493 Stalwart
494 Sturdy
495 Sweave
496 Venture
508 Acme
509 Adroit
510 Advance
511 Affray
519 Ability
520 Alacrity
521 Assurance

MSF—Fleet Minesweepers

55 Raven
58 Broadbill
59 Chickadee
60 Nuthatch
61 Pheasant
62 Sheldrake/AGS 19
64 Starling
100 Heed
101 Herald
102 Motive
103 Oracle
104 Pilot
105 Pioneer
107 Prevail/AGS 20
109 Requisite/AGS 1
110 Revenge
111 Sage
114 Staff
116 Speed
118 Steady
120 Sway
122 Swift
123 Symbol
124 Threat
126 Token
127 Tumult
128 Velocity
131 Zeal
165 Counsel
215 Cruise
240 Hazard
280 Prowess
289 Report
300 Serene
301 Shelter
302 Signet
303 Skirmish
304 Scurry
306 Spectre
307 Staunch
308 Strategy
309 Strength
311 Superior
314 Champion
315 Chief
316 Competent
317 Defense
318 Devastator
319 Gladiator
320 Impeccable
322 Spear
324 Vigilance
340 Ardent
341 Dextrous
356 Creddock
362 Gadwal
364 Graylag
372 Murrelet
373 Peregrine
374 Pidgeon
375 Pochard
376 Ptarmigan
377 Quail
378 Redstart
379 Roselle
381 Scoter
383 Surfbird/ADG
384 Sprig
385 Tanager
386 Tercel
387 Toucan
388 Towhee
389 Waxwing
390 Wheatear

MHC—Coastal Minehunters

43 Bittern

MSC—Coastal Minesweepers

121 Bluebird
122 Cormorant
190 Falcon
191 Frigate Bird
192 Humming Bird
193 Jacana
194 Kingbird
195 Limpkin
196 Meadow Lark
197 Parrot
198 Peacock
199 Phoebe
201 Shrike
203 Thrasher
204 Thrush
205 Vireo
206 Warbler
207 Whippoorwill
208 Widgeon
209 Woodpecker
289 Albatross
290 Gannet

MSC(O)—Old Coastal Minesweepers

13 Grackle
15 Grouse
24 Linnet
33 Plover
47 Fulmar
49 Lorikeet
51 Reedbird
54 Ruff
56 Turkey
58 Siskin

AVM—Guided Missile Ship

1 Norton Sound (ex-AV 11)

AV—Seaplane Tenders

4 Curtiss
7 Currituck
10 Chandeleur
12 Pine Island
13 Salisbury Sound
15 Hamlin
16 St. George

PCE—Escorts

845 Worland
856 Whitehall
877 Havre
880 Ely
894 Farmington
899 Lamar
902 Portage

PCER—Rescue Escorts

849 Somersworth
850 Fairview
851 Rockville
852 Brattleboro
853 Amherst
855 Rexburg
857 Marysville

PC—Submarine Chasers

564 Chadron
567 Rivershead
568 Altus
618 Weatherford

PCS—Wooden Submarine Chasers

1385 Hollidaysburg
1387 Beaufort
1401 McMinniville
1413 Elsmere
1423 Prescott
1431 Grafton

AGC—Amphibious Force Flagshps

7 Mount McKinley
11 Eldorado
12 Estes
16 Pocono
17 Taconic

WPG—Coast Guard Gunboats

31 Bibb
32 Campbell
33 Duane
35 Ingham
36 Spencer
37 Taney
39 Owasco
40 Winnebago
41 Chautauqua
42 Sebago
43 Iroquois
44 Wachusett
64 Escanaba
65 Winona
66 Klamath
67 Minnetonka
68 Androscoggin
69 Mendota
70 Pontchartrain

WAVP—Coast Guard Gunboats

370 Casco
371 Mackinac
372 Humboldt
373 Matagorda
374 Absecon
375 Chincoteague
376 Coos Bay
377 Rockaway
378 Half Moon
379 Unimac
380 Yakutat
381 Barataria
382 Bering Strait
383 Castle Rock
384 Cook Inlet
385 Dexter
386 McCulloch
387 Gresham

List of classifications of naval vessels and service craft

Every vessel in the Navy List has a distinctive serial number, prefaced by letters denoting the category to which she belongs.

A list of these symbols, with their significance, as officially promulgated, follows :

In the following lists the arrangement within the major categories and sub-categories is alphabetically by symbols. Where the identifying classification and hull number of a naval vessel or service vessel is preceded by the letter " E " it indicates that the particular vessel or craft is " Experimental." Similarly the prefix " T " indicates that the vessel is assigned to MSTS (Military Sea Transportation Service). The addition of the suffix "N" to the identifying classification indicates that that particular vessel has nuclear propulsion.

List of Naval Vessel Classifications

a. Combatant

(1) Warships

Aircraft Carriers:

Attack Aircraft Carrier	CVA
Nuclear Power Aircraft Carrier	CVAN
Small Aircraft Carrier	CVL
ASW Support Aircraft Carrier	CVS

Battleships:

Battleship	BB

Cruisers:

Heavy Cruiser	CA
Guided Missile Heavy Cruiser	CAG
Guided Missile Cruiser	CG
Nuclear Power Guided Missile Cruiser	CGN
Light Cruiser	CL
Anti-Aircraft Light Cruiser	CLAA
Guided Missile Light Cruiser	CLG

Destroyers:

Destroyer	DD
Nuclear Power Destroyer	DDN
Anti-Submarine Destroyer	DDE
Guided Missile Destroyer	DDG
Radar Picket Destroyer	DDR
Frigate	DL
Guided Missile Frigate	DLG
Nuclear Power Guided Missile Frigate	DLGN

Submarines:

Submarine	SS
Fleet Ballistic Missile Submarine	SSB
Nuclear Power Fleet Ballistic Missile Submarine	SSBN
Guided Missile Submarine	SSG
Nuclear Power Guided Missile Submarine	SSGN
Nuclear Power Submarine	SSN

(2) Amphibious Warfare Ships

Amphibious Force Flagship	AGC
Attack Cargo Ship	AKA
Attack Transport	APA
High Speed Transport	APD
Transport Submarine	APSS
Inshore Fire Support Ship	IFS
Amphibious Transport Dock	LPD
Amphibious Assault Ship	LPH
Dock Landing Ship	LSD
Medium Landing Ship	LSM
Medium Landing Ship (Rocket)	LSMR
Support Landing Ship (Large) Mk. III	LSSL
Tank Landing Ship	LST

(3) Mine Warfare Ships

Minelayer, Destroyer	DM
Mine Countermeasures Support Ship	MCS
Minehunter, Auxiliary	MHA
Minehunter, Coastal	MHC
Minelayer, Fleet	MMF
Minelayer, Auxiliary	MMA
Minelayer, Coastal	MMC
Minesweeper, Auxiliary	MSA
Minesweeper, Coastal	MSC
Minesweeper, Coastal (old)	MSC(o)
Minesweeper, Fleet (steel hulled)	MSF
Minesweeper, Ocean (Non-magnetic)	MSO
Minesweeper, Special	MSS

(4) Patrol Ships

Escort Ship	DE
Radar Picket Escort Ship	DER
Submarine Chaser (173')	PC
Escort (180')	PCE
Rescue Escort (180')	PCER
Submarine Chaser (Hydrofoil)	PCH
Submarine Chaser (136')	PCS
Patrol Escort	PF
Motor Gunboat	PGM
Fast Patrol Boat	PTF
Yacht	PY
Submarine Chaser (110')	SC

(5) Command Ships

Command Ship	CC

b. Auxiliary Ships

Destroyer Tender	AD
Degaussing Ship	ADG
Ammunition Ship	AE
Store Ship	AF
Combat Store Ship	AFS
Miscellaneous	AG
Icebreaker	AGB
Escort Research Ship	AGDE
Hydrofoil Research Ship	AGEH
Missile Range Instrumentation Ship	AGM
Major Communications Relay Ship	AGMR
Oceanographic Research Ship	AGOR
Radar Picket Ship	AGR
Surveying Ship	AGS
Coastal Surveying Ship	AGSC
Satellite Launching Ship	AGSL
Auxiliary Submarine	AGSS
Hospital Ship	AH
Cargo Ship	AK
Cargo Ship, Dock	AKD
Light Cargo Ship	AKL
Net Cargo Ship	AKN
Stores Issue Ship	AKS
Cargo Ship and Aircraft Ferry	AKV
Net Laying Ship	AN
Oiler	AO
Fast Combat Support Ship	AOE
Gasoline Tanker	AOG
Replenishment Fleet Tanker	AOR
Submarine Oiler	AOSS
Transport	AP
Self-propelled Barracks Ship	APB
Small Coastal Transport	APC
Repair Ship	AR
Battle Damage Repair Ship	ARB
Cable Repairing or Laying Ship	ARC
Internal Combustion Engine Repair Ship	ARG
Landing Craft Repair Ship	ARL
Salvage Ship	ARS
Salvage Lifting Ship	ARSD
Salvage Craft Tender	ARST
Aircraft Repair Ship	ARV
Aircraft Repair Ship (Aircraft)	ARVA
Aircraft Repair Ship (Engine)	ARVE
Submarine Tender	AS
Submarine Rescue Ship	ASR
Auxiliary Ocean Tug	ATA
Fleet Ocean Tug	ATF
Seaplane Tender	AV
Advance Aviation Base Ship	AVB
Guided Missile Ship	AVM
Small Seaplane Tender	AVP
Aviation Supply Ship	AVS
Auxiliary Aircraft Transport	AVT
Distilling Ship	AW
Unclassified Miscellaneous	IX

(c) Service Craft

Large Auxiliary Floating Dry Dock	AFDB
Small Auxiliary Floating Dry Dock	AFDL
Medium Auxiliary Floating Dry Dock	AFDM
Barracks Ship (non-self-propelled)	APL
Auxiliary Repair Dry Dock	ARD
Medium Auxiliary Repair Dry Dock	ARDM
*Utility Landing Craft (see *footnote*)	LCU
Mine Sweeping Boat	MSB
Minesweeper, Inshore	MSI
Target and Training Submarine	SST
Submersible Craft	X
Miscellaneous Auxiliary	YAG
Open Lighter	YC
Car Float	YCF
Aircraft Transportation Lighter	YCV
Floating Crane	YD
Diving Tender	YDT
Covered Lighter (self-propelled)	YF
Ferryboat or Launch	YFB
Yard Floating Dry Dock	YFD
Covered Lighter (non-self-propelled)	YFN
Large Covered Lighter	YFNB
Dry Dock Companion Craft	YFND
Lighter (special purpose)	YFNX
Floating Power Barge	YFP
Refrigerated Covered Lighter (self-propelled)	YFR
Refrigerated Covered Lighter (non-self-propelled)	YFRN
Covered Lighter (Range Tender)	YFRT
Harbour Utility Craft	YFU
Garbage Lighter (self-propelled)	YG
Garbage Lighter (non-self-propelled)	YGN
Dredge	YM
Gate Craft	YNG
Fuel Oil Barge (self-propelled)	YO
Gasoline Barge (self-propelled)	YOG
Gasoline Barge (non-self-propelled)	YOGN
Fuel Oil Barge (non-self-propelled)	YON
Oil Storage Barge	YOS
Patrol Craft	YP
Floating Pile Driver	YPD
Floating Workshop	YR
Repair and Berthing Barge	YRB
Repair, Berthing and Messing Barge	YRBM
Floating Dry Dock Workshop (Hull)	YRDH
Floating Dry Dock Worshop (Mach.)	YRDM
Radiological Repair Barge	YRR
Seaplane Wreckage Derrick	YSD
Sludge Removal Barge	YSR
Large Harbour Tug	YTB
Small Harbour Tug	YTL
Medium Harbour Tug	YTM
Torpedo Testing Barge	YTT
Drone Aircraft Catapult Control Craft	YV
Water Barge (self-propelled)	YW
Water Barge (non-self-propelled)	YWN

* *Note*
All LCUs., Utility Landing Craft, were reclassified from "Service Craft" to "Boats" in Nov. 1958.

UNITED STATES COAST GUARD

Administration

Comandant, United States Coast Guard: Admiral Edwin J. Roland.
Assistant Commandant, U.S. Coast Guard: Donald McG. Morrison.
Chief of Staff of the Coast Guard: Rear-Admiral James R. Alger, Jr.
Superintendent of U.S. Coast Guard Academy: Rear-Admiral W. J. Smith.

Personnel

1960 Fiscal Year: Authorised Strength: 31,105 officers and men.
1961 Fiscal Year: Authorised Strength: 30,680 officers and men.
1962 Fiscal Year: Authorised Strength: 30,923 officers and men.
1963 Fiscal Year: Authorised Strength: 34,129 officers and men.

I.—ESTABLISHMENT

The United States Coast Guard was established by the Act of Congress approved January 28, 1915, which consolidated the Revenue Cutter Service founded in 1790 and the Life Saving Service founded in 1878.

The act of establishment as amended provides (Title 14, U.S. Code, Part I, Sect. I) "The Coast Guard as established January 28, 1915, shall be a military service and a branch of the armed forces of the United States at all times. The Coast Guard shall be a service in the Treasury Department, except when operating as a service in the Navy."

The Lighthouse Service, founded in 1789, was transferred to the Coast Guard on July 1, 1939, as a result of the President's Reorganization Plan No. 11.

On February 28, 1942, the President transferred temporarily from the Secretary of Commerce to the Commandant of the Coast Guard certain safety-at-sea functions of the former Bureau of Marine Inspection and Navigation. The President's Reorganization Plan III, which became effective July 16, 1946, made this temporary transfer of functions permanent.

II.—DUTIES

1. The peacetime duties of the Coast Guard have as their principal objective safety and security at sea through enforcement of the navigation laws, saving life and assistance to vessels in distress, maintenance of aids to navigation, marine inspection, and oceanography.

2. Law enforcement duties, performed for all departments of the government, include those relating to customs, movements and anchorage of vessels, immigration, quarantine, neutrality, navigation and other laws governing merchant vessels and motor boats, safety of life on navigable waters during regattas, oil pollution, sponge fisheries, protection of game, seal and fisheries in Alaska, protection of bird reservations established by Executive Order and suppression of mutinies.

3. Life saving and assistance duties include maintenance of coastal stations and communication lines on the continental coasts of the United States, conduct of the International Ice Patrol, icebreaking, weather patrol, derelict destruction, winter cruising on the Atlantic coast, extension of medical aid to fishing vessels, Bering Sea Patrol and flood relief work. In its humanitarian duties the Coast Guard renders aid and assistance to vessels and aircraft in distress irrespective of nationality and extends its protection, if needed, to all shipping within the scope of its operations.

4. The Coast Guard establishes and maintains navigation aids, consisting of lighthouses, lightships, radio beacons, buoys, radar beacons, world-wide loran, and unlighted beacons on the sea and lake coasts of the United States, on the rivers of the United States as authorized by law, and on the coasts of all other territory under United States jurisdiction, with the exception of Panama.

DUTIES—*continued*

5. In time of national emergency or when the President so directs the Coast Guard operates as a part of the Navy.

A military organization was adopted at the time the service was established in 1790, before the establishment of the Navy Department. This organization has been continued since that date for the purpose of maintaining the general efficiency of the operation of the service in its law enforcement duties in time of peace.

The executive direction under which the Coast Guard operates as a par of the Navy in time of war is similar in effect to a measure of mobilization. In this respect the Coast Guard is a potential reserve force for the Navy.

No personnel are normally assigned or equipped as land troops. Vessels are prepared in emergencies to equip landing forces with small arms and machine guns; stations are similarly prepared to undertake emergency police duties in a more limited sense, because of the smaller units involved but in both cases these duties would be incidental to the primary purpose of the service, the enforcement of law on the high seas and navigable waters of the United States and the saving of life and property.

III.—ORGANIZATION

For the administration and operation of the Coast Guard, the United States, including its territories and insular possessions and the waters adjacent thereto are divided into 12 districts, each under the command of a district commander operating directly under the Commandant of the Coast Guard.

IV.—PERSONNEL

Uniforms of officers and men are similar to those of U.S. Navy, but commissioned officers wear a gold shield on the sleeve instead of a star, and cap device is a gold spread-eagle, the talons grasping a horizontal foul anchor. A silver shield is mounted on the eagle's breast. Enlisted men and women of the Coast Guard wear a shield on the lower right sleeve.

V.—VESSELS

Coast Guard vessels are designated Coast Guard cutters. Those of 110 feet tug type and below are detailed to the larger maritime ports to enforce Customs and Navigation laws and the regulation of the anchorage and movement of vessels.

VI.—AVIATION

Air stations in commission number nine. Location: Salem, Mass.; Brooklyn, N.Y.; Miami, Fla.; St. Petersburg, Fla.; San Diego, California; Port Angeles, Washington; Elizabeth City, N.C.; San Francisco, California; Traverse City, Michigan.

There are also 14 air detachments in the continental U.S., Newfoundland, Bermuda, Puerto Rico, Hawaii, Alaska, Guam, Philippines and Italy.

PATROL GUNBOATS

6 " Campbell " Class (WPG)

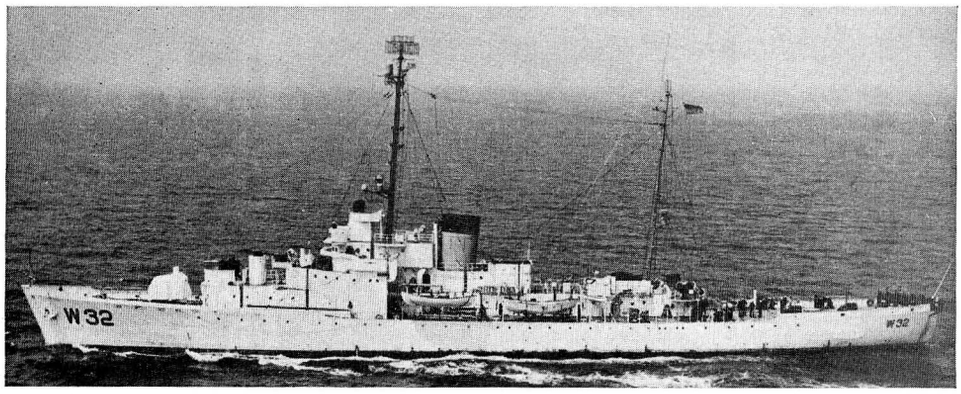
1 Charleston Navy Yard
WPG
31 BIBB (ex-*George M. Bibb*)

1 New York Navy Yard
WPG
36 SPENCER (ex-*John C. Spencer*)

4 Philadelphia Navy Yard
WPG
32 CAMPBELL (ex-*George W. Campbell*)
33 DUANE (ex-*William J. Duane*)
35 INGHAM (ex-*Samuel D. Ingham*)
37 TANEY (ex-*Roger B. Taney*)

Displacement:	2,216 tons *standard* (2,785 tons *full load*)
Dimensions:	308 (*w.l.*), 327 (*o.a.*) × 41 × 12¾ (*mean*) 14½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 2—40 mm. AA.
A/S weapons:	Hedgehog, K-guns
Machinery:	Westinghouse geared turbines. 2 shafts. S.H.P.: 6,200 = 20·5 kts. (20 kts. sea speed)
Boilers:	2 Babcock & Wilcox
Oil fuel:	572 tons
Radius:	8,000 miles at 12·5 kts., 12,300 miles at 11 kts.
Complement:	202

Notes
Rated as 327 ft. Cutters. Employed as ocean station ships. Named after former Secretaries of the Treasury. All this class originally mounted two 5-inch guns. The 20 mm. AA. guns were removed in 1957.



CAMPBELL

1961, *United States Coast Guard, Official*

Photograph Notes
A port bow oblique aerial view of *Taney* appears in the 1956-57 to 1960-61 editions.
Second World War Loss:—*Alexander Hamilton*, WPG 34.

Name	*Launched*	*Completed*
Bibb	14 Jan. 1937	10 Mar. 1937
Campbell	3 June 1936	22 Oct. 1936
Duane	3 June 1936	16 Oct. 1936
Ingham	3 June 1936	6 Nov. 1936
Spencer	6 Jan. 1936	13 May 1937
Taney	3 June 1936	19 Dec. 1936

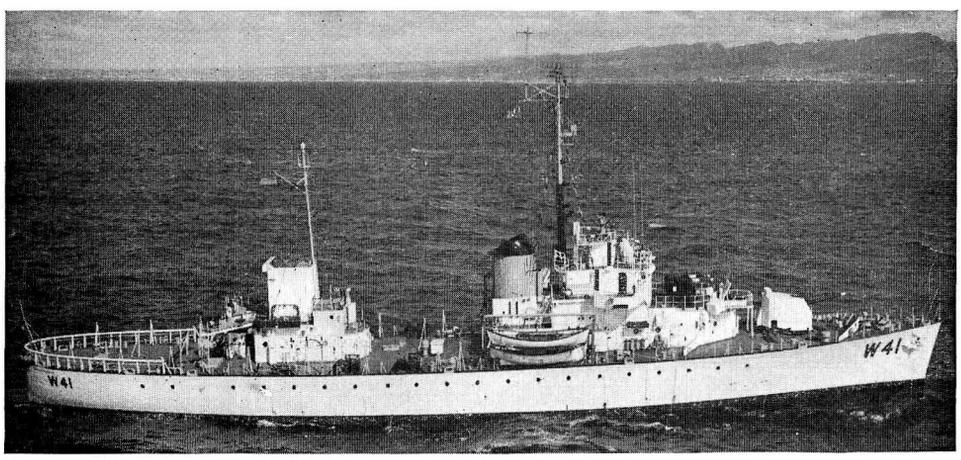
Planned New Construction
Long endurance rescue vessel.
Displacement: 3,000 tons *approx.*
Dimensions: 350 (*w.l.*), 372 (*o.a.*) × 42 feet.
Machinery, 2 diesels of 3,500 B.H.P. each, plus 2 gas turbines of 9,000 H.P. each.
Creeping engine for speed of approx. 3 knots for station keeping.
Radius: 11,500 miles at 20 knots, cruising range; 3,000 miles at 25 knots with gas turbines cut in.
Helicopter deck aft.
Quarters for 6 oceanographers, 17 officers, 152 enlisted men.
Supplies for 40 days at sea.

13 " Owasco " Class (WPG)

48 ANDROSCOGGIN
41 CHAUTAUQUA
64 ESCANABA (ex-*Otsego*)
43 IROQUOIS not active list (see *Notes*)
66 KLAMATH
69 MENDOTA
67 MINNETONKA (ex-*Sunapee*)
39 OWASCO
70 PONTCHARTRAIN (ex-*Okeechobee*)
42 SEBAGO (ex-*Wachusett*)
44 WACHUSETT (ex-*Huron*)
40 WINNEBAGO
65 WINONA

Displacement:	1,563 tons *standard* (1,913 tons *full load*)
Dimensions:	254 (*o.a.*) × 43 × 15 (*mean*), 16½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 4—40 mm. AA.
A/S weapons:	Hedgehog, K-guns
Machinery:	Geared turbines with electric drive by Westinghouse Co. S.H.P.: 4,000 = 18 kts.
Boilers:	2
Oil fuel:	350 tons
Radius:	14,800 miles at 11 kts.
Complement:	140

General Notes
Rated as 255 ft. Cutters. Employed as ocean station ships. All built by Western Pipe & Steel Co., except *Mendota* and *Pontchartrain*, by the Coast Guard Shipyard. All named after Indian tribes. Anti-submarine weapons were re-installed in 1950. *Iroquois* was decommissioned to reserve in 1955 and is in storage at the Coast Guard Yard, Curtis Bay, Md. The 20 mm. AA. guns and depth charge tracks were removed in 1957.
Photograph Notes
A starboard broadside view of *Sebago* appears in the 1955-56 to 1960-61 editions.



CHAUTAUQUA

1961, *United States Coast Guard, Official*

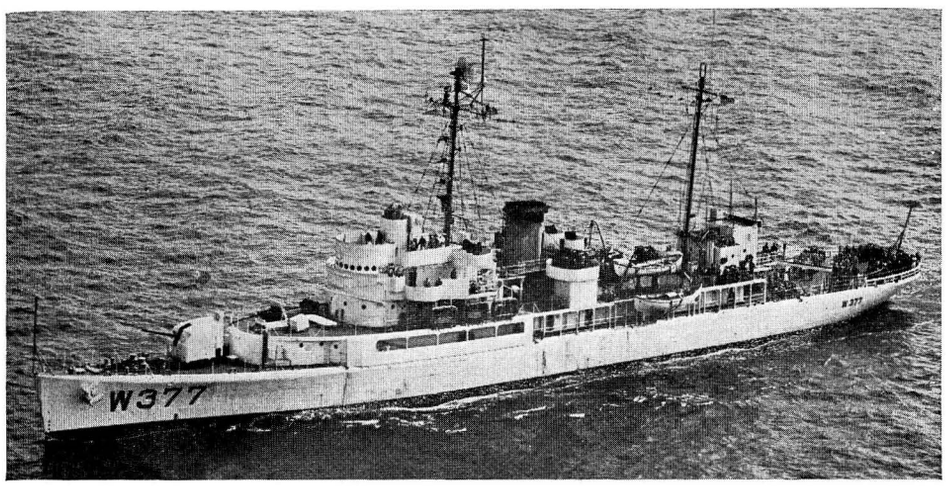
Name	*Launched*	*Completed*
Androscoggin	16 Sep. 1945	20 Sep. 1946
Chautauqua	14 May 1944	4 Aug. 1945
Escanaba	25 Mar. 1945	20 Mar. 1946
Iroquois	22 Oct. 1944	9 Feb. 1946
Klamath	2 Sep. 1945	5 Sep. 1946
Mendota	29 Feb. 1944	2 June 1946
Minnetonka	21 Nov. 1945	20 Sep. 1946
Owasco	18 June 1944	18 May 1945
Pontchartrain	29 Apr. 1944	28 July 1945
Sebago	28 May 1944	20 Sep. 1945
Wachusett	5 Nov. 1944	23 Mar. 1946
Winnebago	2 July 1944	21 June 1945
Winona	22 Apr. 1945	15 Aug. 1946

Former Navy Seaplane Tenders
18 " Casco " Class (WAVP)

WAVP
370 CASCO (ex-*AVP* 12)
371 MACKINAC (ex-*AVP* 13)
372 HUMBOLDT (ex-*AVP* 21)
373 MATAGORDA (ex-*AVP* 22)
374 ABSECON (ex-*AVP* 23)
375 CHINCOTEAGUE (ex-*AVP* 24)
376 COOS BAY (ex-*AVP* 25)
377 ROCKAWAY (ex-*AVP* 29)
378 HALF MOON (ex-*AVP* 26)
379 UNIMAK (ex-*AVP* 31)
380 YAKUTAT (ex-*AVP* 32)
381 BARATARIA (ex-*AVP* 33)
382 BERING STRAIT (ex-*AVP* 34)
383 CASTLE ROCK (ex-*AVP* 35)
384 COOK INLET (ex-*AVP* 36)
385 DEXTER (ex-*Biscayne*, ex-*AGC* 18, ex-*AVP* 11)
386 McCULLOCH (ex-*Wachapreague*, ex-*AGP* 8, ex-*AVP* 56)
387 GRESHAM (ex-*Willoughby*, ex-*AGP* 9, ex-*AVP* 57)

Displacement:	1,766 tons (2,800 tons *full load*)
Dimensions:	310¾ (*o.a.*) × 41 × 13½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 4—40 mm. AA.
A/S weapons:	Hedgehog, 4 K-guns
Machinery:	Diesel. B.H.P.: 6,080 = 18·2 kts. (see *Notes*)
Complement:	215

Notes
Rated as 311 ft. Cutters. All except *Dexter*, *Gresham* and *McCulloch* are AVPs on loan from the U.S. Navy. Employed as ocean station ships. The 20 mm. AA. guns were removed in 1957. *Dexter* was refitted with four new Fairbanks-Morse diesels in 1957 and was recommissioned in July 1958 for duty as West Coast Training Ship. *Unimak* is East Coast Training Ship.

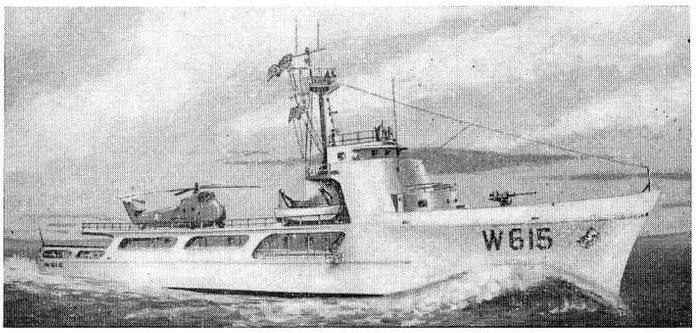


ROCKAWAY

Added, 1958, *Skyfotos*

Name	*Builders*	*Launched*	*Completed*
Absecon	Lake Washington Shipyard	8 Mar. 1942	1942
Barataria	Lake Washington Shipyard	2 Oct. 1943	1944
Bering Strait	Lake Washington Shipyard	15 Jan. 1944	1944
Casco	Puget Sound Naval Shipyard	15 Nov. 1941	1942
Castle Rock	Lake Washington Shipyard	11 Mar. 1944	1944
Chincoteague	Lake Washington Shipyard	15 Apr. 1942	1942
Cook Inlet	Lake Washington Shipyard	13 May 1944	1944
Coos Bay	Lake Washington Shipyard	15 May 1942	1942
Dexter	Puget Sound Naval Shipyard	15 Nov. 1941	1941
Gresham	Lake Washington Shipyard	21 Aug. 1942	1944
Half Moon	Lake Washington Shipyard	12 July 1942	1942
Humboldt	Boston Naval Shipyard	17 Mar. 1941	1941
McCulloch	Lake Washington Shipyard	10 July 1942	1944
Mackinac	Puget Sound Naval Shipyard	15 Nov. 1941	1942
Matagorda	Boston Naval Shipyard	18 Mar. 1941	1941
Rockaway	Associated Shipbuilders	14 Feb. 1942	1942
Unimak	Associated Shipbuilders	27 May 1942	1942
Yakutat	Associated Shipbuilders	2 July 1942	1942

PATROL CRAFT



WPC 615 — 1962, *United States Coast Guard, Official*

2+1 New Construction. " Reliance " Class (WPC)

DILIGENCE **RELIANCE**

Displacement:	930 tons
Dimensions:	210½ × 34 × 10½ feet
Guns:	1—3 inch, 50 cal. forward
Aircraft:	HUS-1G helicopter
Machinery:	Diesels and gas turbines. 2 shafts. B.H.P.: 5,000=19 kts. (*max.*) see *Engineering Notes*
Radius:	5,000 miles at 15 kts. (cruising)
Complement:	64 (7 officers, 57 men)

Notes

A new class of cutters designed by the U.S. Coast Guard. *Diligence* and *Reliance* were authorised under the Fiscal Year 1962 Program and ordered in April 1962 from Todd Shipyard, Houston, Texas. Another (two were requested) was approved in the F.Y. 1963 Program. Primarily intended for search and rescue duties. The superstructure is arranged on three levels forward of midship, affording the wheelhouse 360 degrees visibility. Another feature is a flight deck aft suitable for carrying the Coast Guard's newest type of rescue helicopter. A streamlined tower type mast with platform, yard and gaff accommodates the navigation and signal lights and antennae. Conspicuously missing is the conventional funnel, which is eliminated by the use of an exhaust vent in the stern. Equipped with facilities for ocean towing of vessels up to 10,000 tons *gross*. The crew accommodation, for a total of 8 officers and 58 enlisted men, is so modern in design and comfort as to be comparable with that in the most modern merchant ships. Air conditioned throughout. These are the first of a proposed 27 ships. *Reliance* was laid down on 29 Sept. 1962.

Engineering Notes

Each of the twin screws is driven by a combination 1,500 H.P. turbo-charged diesel and 1,000 H.P. gas turbine (same type of gas turbine as in CG 82314). Adjustable pitch propellers for reverse. Normal cruising on diesels, top speed on gas turbines. Sustained speed of 18 knots. Unmanned engine room.



NEMESIS — 1961, *United States Coast Guard, Official*

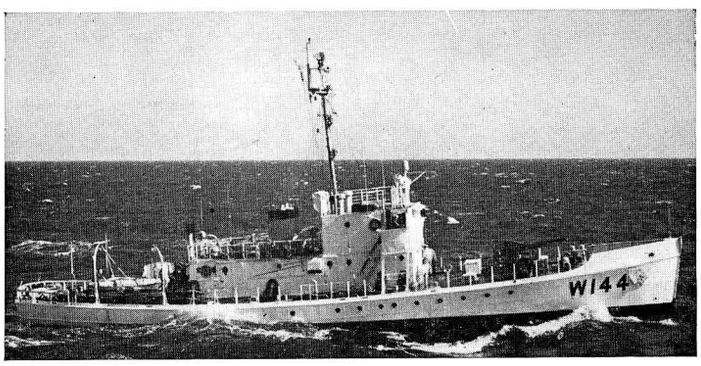
6 " Argo " Class (WPC)

ARIADNE 101 **AURORA** 103 **DIONE** 107 **NEMESIS** 111 **NIKE** 112 **TRITON** 116

Displacement:	334-337 tons
Dimensions:	165 × 25¼ × 9½ feet
Guns:	1—3 inch, 50 cal.
Machinery:	Winton Diesels. 2 shafts. B.H.P.: 1,340=16 kts.

Notes

Rated as 165 ft. Cutters. Built of steel. All launched in 1931-34. *Pandora* and *Perseus* were sold in 1959. A photograph of *Aurora* appears in the 1952-53 to 1960-61 editions.



LEGARE — 1960, *U.S.C.G., Official*

14 " Active " Class (WSC)

AGASSIZ 126 **ALERT** 127 **BOUTWELL** 130 **CAHOONE** 131 **CARTIGAN** 132 **EWING** 137 **FREDERIC LEE** 139 **GEN. GREENE** 140 **KIMBALL** 143 **LEGARE** 144 **McLANE** 146 **MORRIS** 147 **TRAVIS** 153 **YEATON** 156

Displacement:	220 tons
Dimensions:	125 (*o.a.*) × 23½ × 9 (*max.*) feet
Guns:	1—40 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 800=13 kts.

Notes

Rated as 125 ft. Cutters. Built of steel. All launched 1926-27. All re-engined in 1939-42. *Bonham* was disposed of in 1959 (decommissioned at Seattle on 20 Apr. 1959). *Active, Diligence* and *Marion* were decommissioned in 1962. *Cayahoga* is C.G. Reserve Training Ship.

PATROL BOATS (WPB)



CG 95321 (" C " Class) — 1959, *U.S.C.G., Official*

35 " 95 ft " Steel Type

CG 95321—95335 "C" Class (built 1958-59)	**CG 95312—95314, 95316—95320** "B" Class (built 1955-56)	**CG 95300—95311** "A" Class (built 1953)
Displacement:	101·75 tons	
Dimensions:	95 (*o.a.*) × 19 × 5 feet	
Guns:	" C " Class: 1—20 mm. " B " Class: 1—40 mm., D.C.T., Rocket launchers " A " Class: 2—20 mm., D.C.T., Rocket launchers	
Machinery:	4 Diesels. 2 shafts (2 engines in tandem each shaft) B.H.P.: 2,200=21 kts. (*max.*)	
Radius:	1,500 miles cruising range	
Complement:	15 (" A " and " B " classes), 13 (" C " class)	

General Notes

Rated as 95 ft. Cutters. Designed and built at Coast Guard Yard, Curtis Bay, Maryland, for port security, search and rescue. Steel hulled, twin screws. A photograph of the " B " class appears in the 1959-60 and 1960-61 editions and of the " A " class in the 1954-55 to 1958-59 editions. " C " class boats, for search and rescue, have less armament, electronics and displacement.

Transfer Notes

Two were built for Ethiopia, two for Haiti, four for Iran, one for Saudi Arabia and four for Thailand.



CG 82314 (gas turbines) — 1962, *United States Coast Guard, Official*

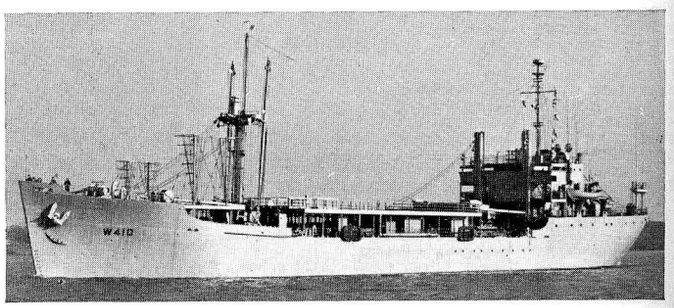
41 " 82 ft " Steel Type

CG 82301—82317 "A" Class (built 1960-61)	**CG 82318—82331** "B" Class (built 1961)	**CG 82332—82341** "C" Class (built 1962)
Displacement:	65 tons	
Dimensions:	78⅛ (*w.l.*), 82⅜ (*o.a.*) × 17¼ × 5¾ (*mean*), 6 (*max.*) feet	
Guns:	1—20 mm.	
Machinery:	2 Diesels. 2 shafts. B.H.P.: 1,200=17 kts. (see *Notes*)	
Complement:	10	

Notes

Rated as 82 ft. Cutters. Designed and built at Coast Guard Yard, Curtis Bay, Maryland, for law enforcement, search and rescue. Steel hulls, unmanned engine room controlled from the bridge, power steering and air conditioning. " C " Class modifications (also 82318) include an increase in B.H.P. to 1,600 and speed to 23 kts. In addition to diesels, CG 82314 is fitted with 2 Saturn gas turbines with 1,100 H.P. each, manufactured by Solar Aircraft Co., giving a speed of over 20 knots. Controllable pitch propellors.

RADIOSHIP (WAGR)



COURIER — 1952, *U.S.C.G., Official*

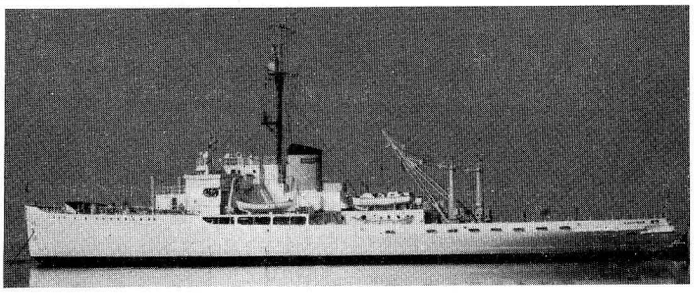
WAGR 410 COURIER (ex-*Coastal Messenger*, ex-U.S.S. *Doddridge*)

Displacement:	5,800 tons
Measurement	5,926 tons *deadweight*
Dimensions:	338⅓ × 50⅓ × 21 (*max.*) feet
Machinery:	Diesel, direct drive. B.H.P.: 1,600=10 kts.
Radius:	Approximately 14,500 miles

Notes

CI-M-AVI type, launched in 1945. Manned by the Coast Guard for the United States Information Agency as a relay station for the Voice of America. Built as a naval cargo ship (AK 176) but not used by the Navy. For duty in foreign waters. Virtually a seagoing radio broadcasting station. Transmitting equipment is most powerful of its kind ever installed in any vessel. Commissioned on 15 Feb. 1952. Stationed at Rhodes, Greece.

ICEBREAKERS (WAGB)



MACKINAW — *Added 1962, United States Coast Guard, Official*

1 "Mackinaw" Class

MACKINAW (ex-*Manitowoc*)

Displacement:	5,252 tons *standard* (8,775 tons *full load*)
Dimensions:	290 (*o.a.*) × 75 × 19 (*max.*) feet
Aircraft:	1 helicopter
Machinery:	Diesel, with electric drive. 3 shafts (1 forward, 2 aft) B.H.P.: 10,000 = 16 kts.
Radius:	6,000 miles at cruising speed

Notes

No. WAGB 83. Built by Toledo Shipbuilding Co., Ohio. Laid down on 20 Mar. 1943. Launched on 6 Mar. 1944. Commissioned on 20 Dec. 1944. Completed in Jan. 1945. Specially designed and constructed with 1⅛ in. plating for service as an icebreaker on the Great Lakes. Equipped with two 12-ton cranes. Helicopter platform aft.

Gunnery Notes

Formerly carried only machine guns, now removed, it was officially stated in 1962.

New Construction

The President vetoed a Congress-passed bill authorising an atomic-powered ice-breaker for the Coast Guard, Aug. 1958. To have cost about $60,000,000.



EASTWIND — 1958, *U.S.C.G. Official*

3 "Wind" Class

EASTWIND	NORTHWIND	WESTWIND

Displacement:	3,500 tons *standard* (6,515 tons *full load*)
Dimensions:	250 (*pp.*), 269 (*o.a.*) × 63½ × 25¾ feet
Guns:	*Eastwind:* 2—3 inch, 50 cal. *Northwind:* 2—5 inch, 38 cal. *Westwind:* 1—5 inch, 38 cal.
Machinery:	Diesel, with electric drive. 2 shafts. 2 stern propellers. B.H.P.: 13,300 = 16 kts.
Radius:	11,000 miles

Notes

Construction entirely welded, with double hull and exceptionally heavy plating designed to crush 9 ft. ice. Forward shafts removed. All three ships have helicopter platform aft.

Northwind (first ship of that name), *Southwind* and *Westwind* were lent to Russian Navy in 1945. *Southwind* returned 1950 (see earlier page, U.S. Navy section), other two Dec. 1951. *Eastwind* severely damaged in collision 19 Jan., 1949, recommissioned 17 May 1950, after repairs at Newport News.

Gunnery Notes

The four 40 mm. guns in *Northwind* and *Westwind* and the four 20 mm. guns in *Eastwind* have been removed, it was officially stated in 1962.

No.	*Name*	*Builders*	*Launched*
WAGB 279	*Eastwind*	Western Pipe & Steel Co.	6 Feb. 1943
WAGB 282	*Northwind*		25 Feb. 1945
WAGB 281	*Westwind*		31 Mar. 1943

LIGHT ICEBREAKER (WAG)

Search and Rescue Type (Miscellanous Auxiliary)

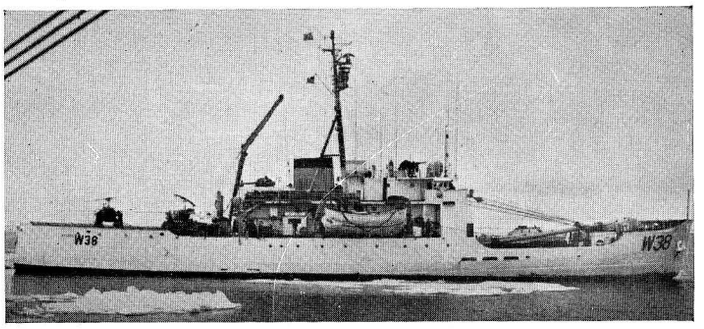
STORIS (ex-*Eskimo*)

Displacement:	1,715 tons.
Dimensions:	230 (*o.a.*) × 43 × 14 (*mean*), 15 (*max.*) feet
Machinery:	Diesel, with electric drive. B.H.P.: 1,800 = 13·5 kts.
Guns:	1—3 inch, 50 cal.
Aircraft:	2 helicopters
A/S weapons:	2 Rocket Launchers

Notes

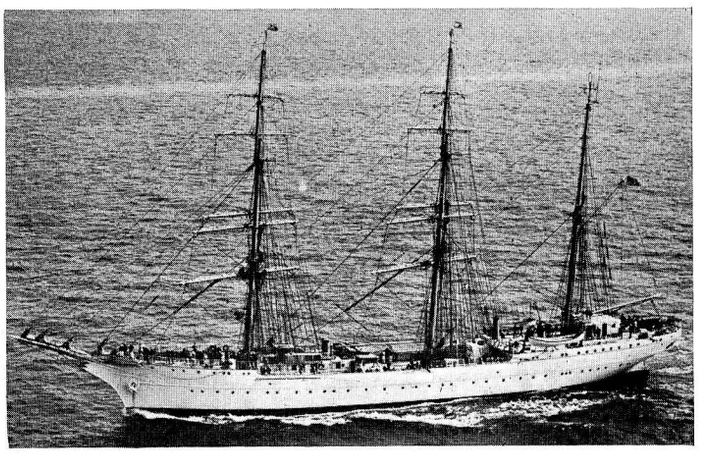
No. WAG 38. Built by Toledo Shipbuilding Co., Ohio. Launched in 1942. Ice patrol tender. Helicopter platform aft. Strengthened for ice navigation and employed on Alaskan service. Search, rescue and law enforcement are primary duties. Makes supply runs to isolated Coast Guard installations within her patrol area.

Icebreakers—*continued*



STORIS — 1958, *U.S.C.G. Official*

TRAINING SHIPS (WIX)



EAGLE — *Added 1958, Skyfotos*

1 Ex-German Type (Auxiliary Barque)

EAGLE (ex-*Horst Wessel*)

Displacement:	1,634 tons (1,800 tons *full load*)
Dimensions:	265¾ (*pp.*), 295¼ (*o.a.*) × 39⅓ × 15¾ (*mean*), 17 (*max.*) feet
Sail area:	21,350 sq. ft.
Height of masts:	150 feet
Speed:	As high as 18 kts. under full sail alone
Machinery:	2 M.A.N. auxiliary Diesels. 1 shaft. B.H.P.: 750 = 10 kts.
Oil fuel:	48 tons
Radius:	3,500 miles at 10 kts
Complement:	280

Notes

Former German training ship for naval cadets. Built by Blohm & Voss, Hamburg. Launched on 13 June 1936. Taken by the United States as a reparation after the war for employment in U.S. Coast Guard Practice Squadron. Has made several cruises to European waters to train C.G. cadets. Sister ship, *Albert Leo Schlageter*, was also taken by the U.S.A. in 1945, but was sold to Brazil in 1948 and to Portugal in 1962.

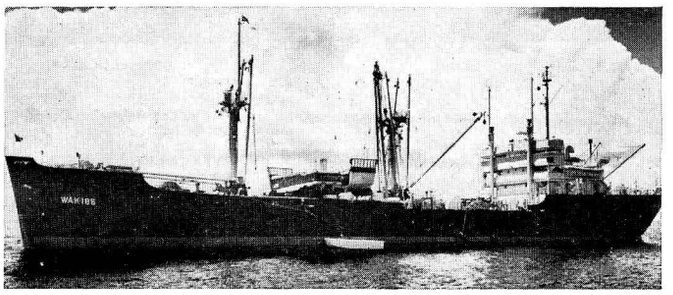
PETREL (Sailing yacht acquired on 1 July 1955).

CUYAHOGA

Notes

Former WSC Class. Assigned to Reserve Training Center as Training Ship for Officer Candidates.

SUPPLY SHIPS (WAK)



KUKUI — 1957, *U.S.C.G., Official*

KUKUI (ex-U.S.S. *Colquitt*, AK 174)

Displacement:	4,900 tons (5,800 tons *gross*)
Dimensions:	338½ (*o.a.*) × 50 × 21 (*max.*) feet
Machinery:	Nordberg Diesel. B.H.P.: 1,700 – 12 kts.

Notes

WAK 186. Built 1945 by Froemming Bros., Milwaukee, Wisc. Launched 1944. Maritime Administration type CI-M-AVI. Appearance similar to that of Radioship *Courier*, see previous page.

NETTLE (ex-*FS* 396)

Displacement:	728 tons
Dimensions:	176½ (*o.a.*) × 32 × 10 (*max.*) feet
Machinery:	Diesel. B.H.P.: 1,000 = 13 kts.

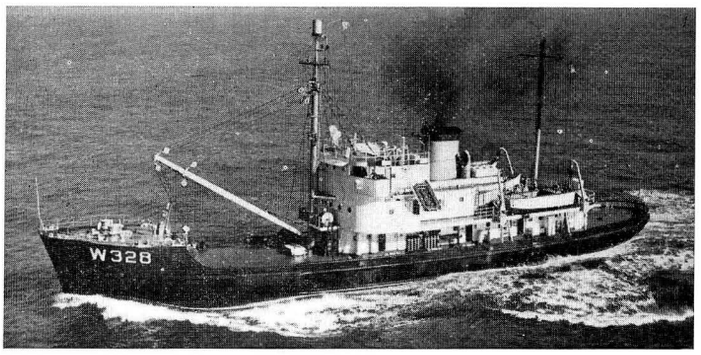
Notes

Ex-Army craft. WAK 169. Launched 1944. *Trillium* was transferred to U.S. Navy Reserve Fleet, 7 July 1955, for delivery to the Korean Navy in 1956.

Transfer Note

The cable layer *Yamacraw*, WARC 333, was transferred to the U.S. Navy on a loan basis in 1959, see earlier page.

BUOY TENDERS (WAGL)



MAGNOLIA — 1962, *United States Coast Guard, Official*

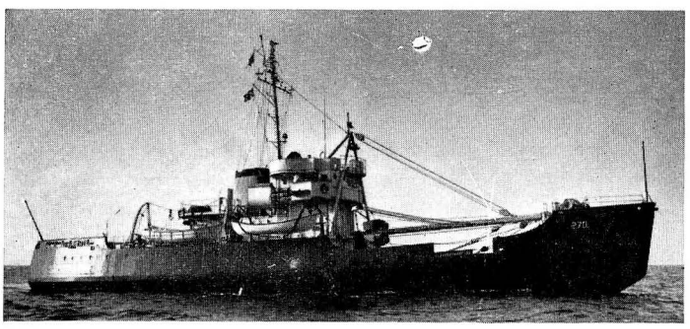
Note: All U.S. Coast Guard Buoy Tenders are officially listed in order of length.

5 "Heather" Class Former Navy Minelayers

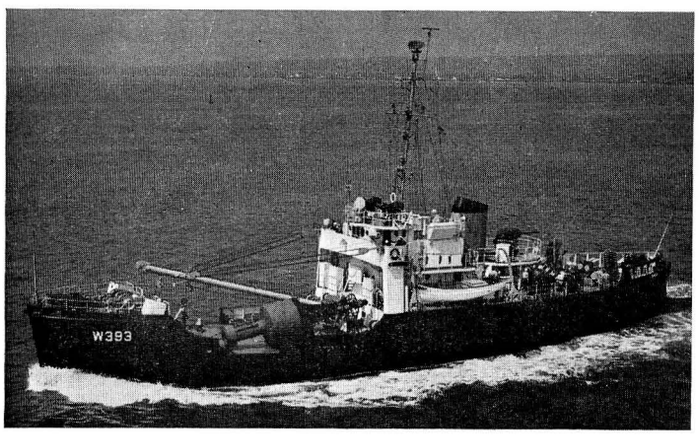
HEATHER (ex-*Obstructor*) **JONQUIL** (ex-*Bastian*) **WILLOW** (ex-*Picket*)
IVY (ex-*Barbican*) **MAGNOLIA** (ex-*Barricade*)

Displacement: 1,054 tons (1,250 tons *full load*)
Dimensions: 188⅜ (*o.a.*) × 37 × 12 (*max.*) feet
Machinery: Triple expansion. 2 shafts. I.H.P.: 1,200=12 kts.

Notes
Ex-Army mineplanters, ex-U.S. Navy auxiliary minelayers, ACM 7, 5, 6, 3, 8, launched 1942. WAGL 331, 329, 330, 328, 332, respectively.



CACTUS — 1959, *U.S.C.G., Official*



FIREBUSH ("Iris" Class) — 1959, *U.S.C.G., Official*

38 "Cactus" and "Iris" Classes

20 *Marine Iron & S.B. Co., Duluth*
BASSWOOD
BLACKHAW (18 June 1943)
BLACKTHORN (20 July 1943)
BUTTONWOOD (28 Nov. 1942)
CACTUS (25 Nov. 1941)
CITRUS (15 Aug. 1942)
CLOVER (1942)
CONIFER (3 Oct. 1942)
COWSLIP (1942)
EVERGREEN
HORNBEAM (15 Aug. 1943)
MESQUITE (14 Nov. 1942)
PAPAW
PLANETREE
SASSAFRAS (1943)
SEDGE (1943)
SPAR (2 Nov. 1943)
SUNDEW (8 Feb. 1944)
SWEETBRIAR (30 Dec. 1943)
SWEETGUM (1943)

17 *Zenith Dredge Co., Duluth*
ACACIA (ex-*Thistle*, 7 Apr. 1944)
BALSAM (1942)
BITTERSWEET (1943)
BRAMBLE (1943)
FIREBUSH (1943)
GENTIAN (1942)
IRIS (10 Mar. 1944)
LAUREL (4 Aug. 1942)
MADRONA (11 Nov. 1942)
MALLOW (1943)
MARIPOSA (7 Jan. 1944)
SAGEBRUSH (30 Sep. 1943)
SALVIA (15 Sep. 1943)
SORRELL (28 Sep. 1942)
TUPELO (28 Nov. 1942)
WOODBINE
WOODBRUSH (1944)

1 *Coast Guard Shipyard, Curtis Bay*
IRONWOOD (Mar. 1943)

Displacement: 935 tons
Dimensions: 180 (*o.a.*) × 37 × 12 (*mean*), 14 (*max.*) feet
Guns: 1—3 inch, 50 cal., rocket launchers
Machinery: Diesel, with electric drive. B.H.P.: 1,200=14 kts. (*Citrus, Clover, Conifer, Cowslip, Evergreen, Tupelo, Woodbine*, B.H.P.: 1,000=13 kts.). Some have Sundew diesels of 1,800 B.H.P.

General Notes
Builders and launch dates above. *Redbud* was lent to the Military Sea Transportation Service as an AKL (Cargo Ship Light). *Evergreen* is used as oceanographic vessel.
Engineering Notes
Cowslip was fitted with a variable pitch transverse propellor in the bow in 1961.
Photograph Notes
A starboard broadside view of *Blackhaw* appears in the 1958-59 and earlier editions.

Buoy Tenders—*continued*

1 "Juniper" Type

JUNIPER
Displacement: 794 tons
Dimensions: 177 × 32⅜ × 9¼ feet
Machinery: Diesel, with electric drive. 2 shafts. B.H.P.: 900=13 kts.

Notes
Launched on 18 May, 1940.

ARBUTUS

Displacement: 960 tons
Dimensions: 175 × 32 × 12¼ feet
Machinery: Reciprocating. 2 shafts. I.H.P.: 1,000=11 kts.

Notes
Launched in 1934

Recent Disposals
Hemlock was decommissioned in 1958 and sold. *Violet* was decommissioned in 1962.

MISTLETOE

Displacement: 1,040 tons
Dimensions: 173 × 34 × 11 feet
Machinery: Reciprocating. 2 shafts. I.H.P.: 1,000=12 kts.

Notes
Launched in 1939.

3 "Hollyhock" Class

FIR (1939) **HOLLYHOCK** (1937) **WALNUT** (1939)

Displacement: 989 tons
Dimensions: 173 × 32 × 12 feet
Machinery: Diesel. 2 shafts. B.H.P.: 1,350=13 kts.

Notes
Walnut was converted and re-engined by Willamette Iron & Steel Co., Portland, Oregon in 1958.

LILAC

Displacement: 770 tons
Dimensions: 172 × 32 × 8½ feet
Machinery: Reciprocating. 2 shafts. I.H.P.: 1,000=11·5 kts.

Notes
Launched in 1933.

2 "Hawthorn" Class

HAWTHORN **OAK**

Displacement: 875 tons
Dimensions: 160 × 30 × 9½ feet
Machinery: Reciprocating. I.H.P.: 750=8 kts.

Notes
Both launched in 1931. (The larger but older *Cedar* was sold in June 1955.) A coastal buoy tender (157 ft.) was requested in the Fiscal Year 1963 Program to replace one of the above ships.

8 "White" Class

WHITE ALDER **WHITE HOLLY** **WHITE SAGE**
WHITE BUSH **WHITE LUPINE** **WHITE SUMAC**
WHITE HEATH **WHITE PINE**

Displacement: 435 tons
Dimensions: 133 (*o.a.*) × 30 × 10 (*max.*) feet
Machinery: Diesel-electric. B.H.P.: 300=10 kts.

Notes
All launched in 1943.

HICKORY

Displacement: 400 tons
Dimensions: 131½ × 24½ × 9½ feet
Machinery: Reciprocating. I.H.P. 500=12 kts.

Notes
Launched in 1933

TAMARACK

Displacement: 400 tons
Dimensions: 124 × 29 × 7½ feet
Machinery: Diesel, with electric drive. B.H.P.: 600=10 kts.

Notes
Tamarack was launched in 1934.

3 "Maple" Class

MAPLE **NARCISSUS** **ZINNIA**

Displacement: 342 tons (*Maple*, 350 tons)
Dimensions: 122 × 27 × 6½feet
Machinery: Diesel. 2 shafts. B.H.P.: 400=10 kts.

Notes
All launched in 1939.

3 "Columbine" Class

COLUMBINE (1931) **LINDEN** (1931) **WISTARIA** (1933)

Displacement: 323 tons
Dimensions: 121½ × 25 × 6⅔ feet
Machinery: Diesel, with electric drive. B.H.P.: 240=9 kts.

Notes
Launch dates above. A new engine for *Linden* was approved in the Fiscal year 1959 program.

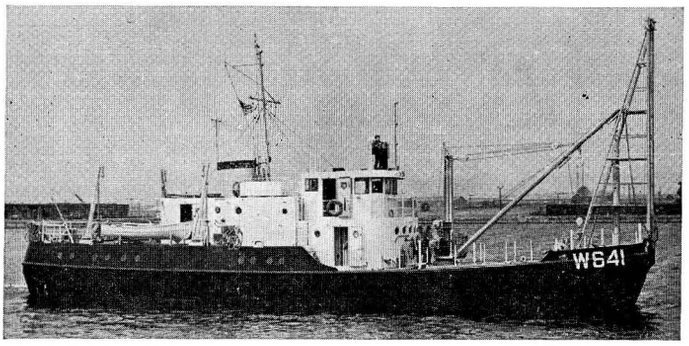
1 "Aster" Class

ASTER

Displacement: 500 tons (*full load*)
Dimensions: 105 (*o.a.*) × 30⅔ × 8 (*max.*) feet
Machinery: Diesel-electric

Notes
Launched in 1943. Of wooden construction. Sister ship *Thistle* decommissioned in 1957, and was sold in 1959.

Buoy Tenders—*continued*



AZALEA — 1959, *U.S.C.G., Official*

9 "100 ft" Class

AZALEA (18 Feb. 1958)
BARBERRY (14 Nov. 1942)
BLUEBELL
BRIER
COSMOS (11 Nov. 1942)
PRIMROSE
RAMBLER
SMILAX
VERBENA

Displacement:	178 tons
Dimensions:	100×24×4½ feet
Machinery:	Diesel, with electric drive. 2 shafts. B.H.P.: 300=8·5 kts.
Complement:	13

Notes
Launch dates above. *Azalea*, WAGL 641, laid down on 1 Oct. 1957 and commissioned on 23 May 1958, was built at the Coast Guard Yard, Curtis Bay, Maryland, to replace the old *Palmetto*. She is air-conditioned and has a pile driver in the bow. She has a complement of 13 officers and men and cost $500,000.

Small Buoy Tenders

Smaller buoy tenders include the following:

CLEMATIS (1944), **SHADBUSH** (1944) — 93 tons
BIRCH (1939), 76 tons
JASMINE (1939), **BLUEBONNET** (1935) — 184 tons
ELM (1937), 69 tons
DAHLIA (1933), 160 tons
CHERRY (1932), 202 tons
MYRTLE (1932), 186 tons
ALTHEA (1930), **POINCIANA** (1930) — 120 tons
BEECH (1928), 255 tons

Notes
Blackrock was sold to the Government of Haiti in Nov. 1945. *Palmetto* was decommissioned in June 1958 and sold in 1958; she was replaced by the new *Azalea* (see "100-ft." class above in 1958. *Rhododendron* was decommissioned for sale in 1958.

River Buoy Tenders

River service buoy tenders comprise the following:

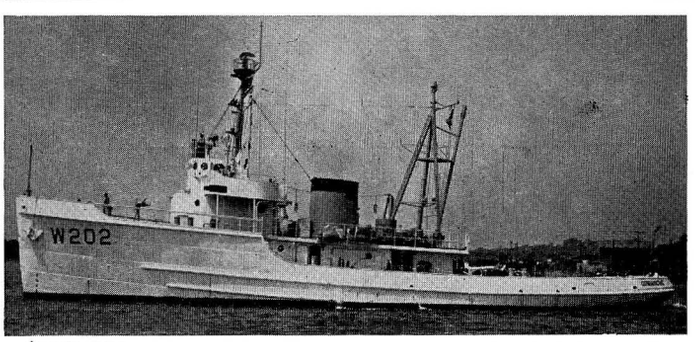
FOXGLOVE (1944), **SUMAC** (1944), **FERN** (6 Nov. 1942) — 350 tons
LANTANA (1943) 273 tons
OLEANDER (1940) 80 tons
DOGWOOD (1942), **FORSYTHIA** (1940), **SYCAMORE** (1940) — 230 tons
GOLDENROD (1938), **POPLAR** (1939) — 193 tons

Notes
Goldenrod was rebuilt and re-engined in 1960. *Foxglove* was refitted in 1961 with three 400 B.H.P. diesels.

LIGHTSHIPS (WAL)

Notes
Total 30, of which 27 are active. 20 are on Station assignments and seven are relief lightships. Overall length: 97 to 149 feet. Eight decommissioned lightships were sold in 1955-56. WAL 511 was sold in 1959. WAL 505 sank after collision in 1960. WAL 534 (*Nantucket*) was re-engined in the 1960 Fiscal Year. WAL 504, WAL 508 and WAL 513 were decommissioned and placed in storage in 1959-60. WAL 515 was decommissioned in Nov. 1961.

AUXILIARY OCEAN TUGS



COMANCHE — 1959, *U.S.C.G., Official*

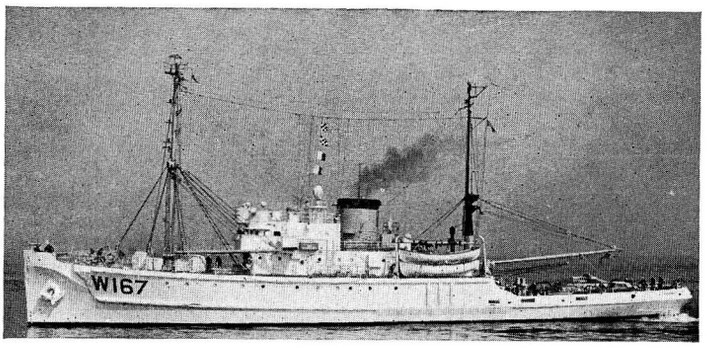
2 WATA Type

COMANCHE (ex-*Wampanoag*) — **MODOC** (ex-*Bagaduce*)

Displacement:	534 tons *standard* (835 tons *full load*)
Dimensions:	134½ (*w.l.*), 143 (*o.a.*)×33⅜×13 feet
Guns:	1—20 mm.
Machinery:	Diesel-electric. B.H.P.: 1,500=13 kts.
Complement:	4 officers, 40 men.

Notes
WATA 202 and WATA 194, respectively. *Comanche* was transferred direct from the U.S. Navy, replacing *Pandora*. *Modoc* was transferred from the Maritime Administration to the Coast Guard and commissioned at Seattle on 20 Apr. 1959, replacing *Bonham*.

OCEANGOING TUGS (WAT)



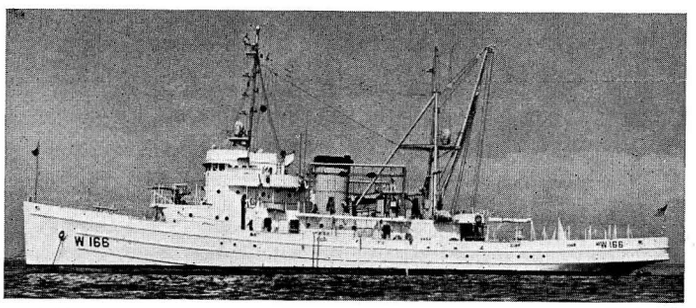
ACUSHNET — 1960, *U.S. Coast Guard, Official*

2 WAT Type

ACUSHNET (ex-*Shackle*) — **YOCONA** (ex-*Seize*)

Displacement:	1,557 tons
Dimensions:	207 (*w.l.*), 213½ (*o.a.*)×39×13 (*mean*), 15½ (*max.*) feet
Machinery:	Diesel-electric. 2 shafts. H.P.: 3,000=14 kts.

Notes
WAT 167 and WAT 168. Launched on 1 Apr. 1943 and 8 Apr. 1944, respectively.



TAMAROA — 1959, *U.S.C.G., Official*

4 WATF Type

AVOYEL (9 Aug. 1944)
CHEROKEE (10 Nov. 1939)
CHILULA (1 Dec. 1944)
TAMAROA (13 July 1943)

Displacement:	1,170 tons
Dimensions:	195 (*w.l.*), 205½ (*o.a.*)×38½×12 (*mean*), 16 (*max.*) feet
Guns:	1—3 inch, 50 cal.
Machinery:	Diesel-electric. H.P.: 3,000=16 kts.

Notes
WATF 150, 165, 153 and 166, respectively. *Avoyel* and *Chilula* have been on loan from the United States Navy since 1956 (recommissioned from the Reserve Fleet).

MEDIUM HARBOUR TUGS (WYTM)

13 "Arundel" Class

ARUNDEL (June 24, 1939)
MAHONING (July 22, 1939)
NAUGATUCK (March 23, 1939)
RARITAN (March 23, 1939)
KAW (1942)
MANITOU (Sep. 29, 1942)
CHINOOK (July 1943)
MOHICAN (July, 1943)
OJIBWA (Aug. 10, 1943)
SAUK (Aug. 10, 1943)
SHONOMISH (Aug. 10, 1943)
APALACHEE (1943)
YANKTON (1943)

Displacement:	328 tons
Dimensions:	110 (*o.a.*)×26½×10½ (*mean*), 12½ (*max.*) feet
Machinery:	Diesel-electric. S.H.P.: 1,000=12 kts.

Notes
First pair were built by Gulfport Works, Port Arthur, Texas; second pair by Defoe Works, Bay City, Mich.; third pair by Coast Guard Yard, Curtis Bay, Md.; remaining 7 by Ira S. Bushey & Son, Brooklyn, N.Y. Launch dates above. Strengthened for icebreaking.

4 "Calumet" Class

3 *Charleston Navy Yard*
CALUMET
NAVESINK
TUCKAHOE

1 *Portsmouth Navy Yard*
HUDSON

Displacement:	290 tons
Dimensions:	110½×24×10½ (*mean*), 11½ (*max.*) feet
Machinery:	Diesel, with electric drive. B.H.P.: 800=12 kts.

Notes
All launched in 1934. Builders above.

SMALL HARBOUR TUGS (WYTL)

Six new steel-hulled harbour tugs were built by Gibbs Corporation, Jacksonville, Florida, in the Fiscal Year 1961 program, 100 tons displacement, 65×19×4½ feet, 400 H.P. diesel, complement 7, and four more were requested in the Fiscal Year 1962 Program.

Twenty small tugs (WYT), 64, 63 and 56 feet in length, are in service. Five harbour tugs are requested in the Fiscal Year 1963 Program.

Transfer Notes
Yonaguska, WYT 195, has been returned to the U.S. Navy from which she was on loan.

UNION OF SOVIET SOCIALIST REPUBLICS

Administration

Commander-in-Chief of the Navy and *First Deputy Minister of Defence* : Admiral of the Fleet Sergey Georgiyevich Gorshkov.

First Deputy Commander-in-Chief of the Navy : Admiral Arseniy Grigoryevich Golovco.

Chief Main Naval Staff and *Deputy Commander-in-Chief* : Admiral Fedor Vladimirovich Zozulya.

The control of all Soviet armed forces, unified under a single Defence Ministry on 26 Feb. 1946. was divided on 25 Feb. 1950 when a War Ministry and a new Independent Navy Ministry were created. On 15 Mar. 1953 a single Ministry of Defence was reconstituted

Strength of Soviet Navy

22 cruisers, 165 destroyers, 465 submarines, 275 frigates and escort vessels, 1,000 minesweepers, 245 patrol vessels, 1,000 motor torpedo boats, 120 landing craft, 200 fleet auxiliaries.

Soviet Warships

Most ships are of recent construction. Most ships not being refitted are fully manned and operational. Cruisers, destroyers, submarines and many small craft are fitted for minelaying.

Naming of Warships

Cruisers after statesmen, admirals or heroes.
Destroyers after adjectives.
Frigates after birds and winds.
Minesweepers after weapons and equipment.
Minelayers and *Netlayers* after rivers and lakes.
Surveying vessels after astronomical terms.
Depot ships after towns and rivers.
Icebreakers after statesmen and Artic explorers.

The hull or side numerals of warships change periodically, although apparently the pennant numbers of auxiliaries do not change.

Colour of Warships

Naval vessels : Light grey all over.
Auxiliaries: Painted somewhat darker grey.
Surveying vessels: Black hulls with red waterlines, yellow funnels with black tops.

Naval Personnel

Total: 750,000 officers and men, including river flotillas, training establishments, coast-artillery and marines; and naval air force.
In ships: 275,000 officers and ratings.
In naval air force: 85,000 officers and men.

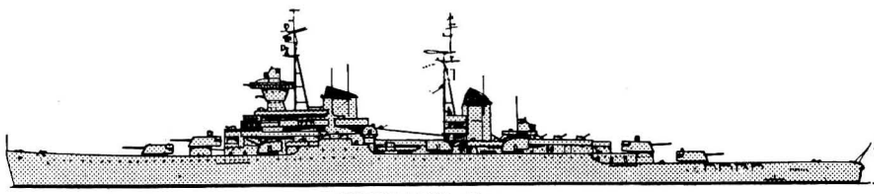
Mercantile Marine

Lloyd's Register of Shipping:
1,212 vessels of 4,066,157 tons *gross*

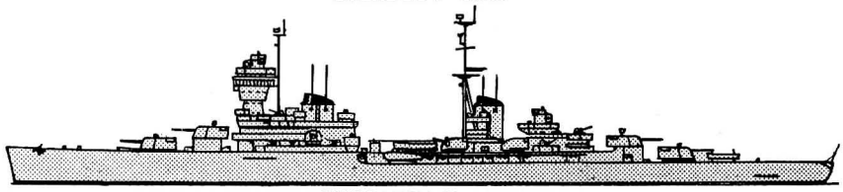
Silhouettes

Scale: 150 ft. = 1 inch.

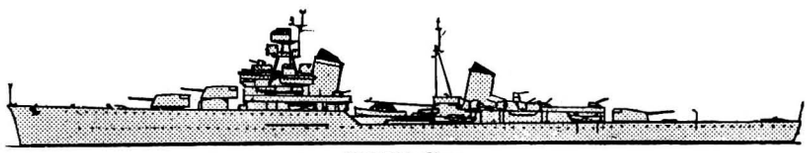
Cruisers, Leaders



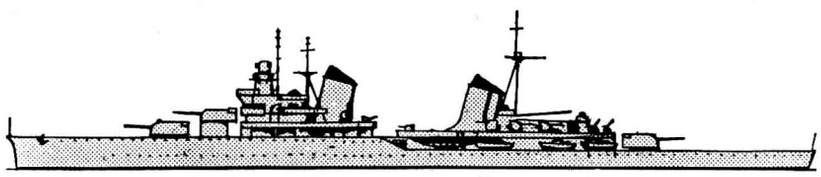
SVERDLOV *Class*



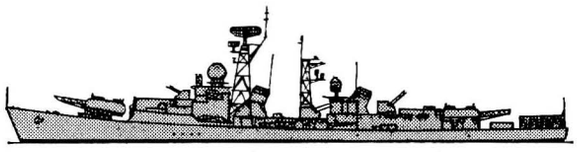
CHAPAYEV *Class*



KIROV *Class*



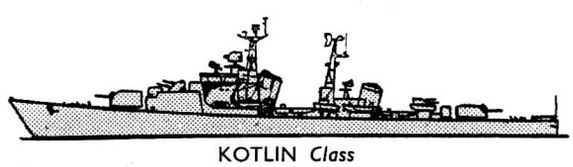
MAKSIM GORKI *Class*



KRUPNYI *Class*

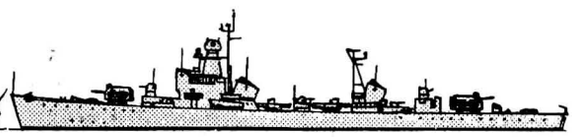


Later KOTLIN *Class*



KOTLIN *Class*

Destroyers, Frigates



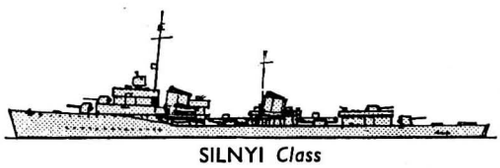
TALLINN *Class*



SKORYI *Class*



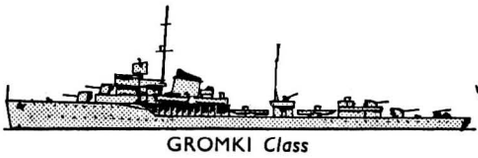
OTLICHNYI *Class*



SILNYI *Class*



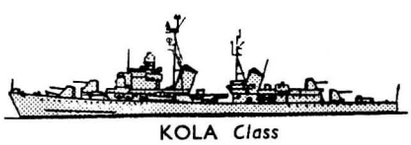
LENINGRAD *Class*



GROMKI *Class*



Later RIGA *Class*



KOLA *Class*



RIGA *Class*

CRUISERS



ZDHANOV

1957, *Skyfotos*

16 " Sverdlov " Class

ADMIRAL LAZAREV	FE
ADMIRAL NAKHIMOV	BS
ADMIRAL SENJAVIN	FE
ADMIRAL USHAKOV	B
ALEKSANDR NEVSKII	A
ALEKSANDR SUVOROV	FE
DMITRI DONSKOI	FE
DMITRI POZHARSKIY	FE
DZERZHINSKI	BS
KOSMA MININ	FE
MIKHAIL KUTUSOV	BS
OKTYABRSKAYA REVOLUTSIYA (ex-*Molotovsk*)	B
PETROPAVLOVSK	FE
SVERDLOV	B
VARYAG	FE
ZHDANOV	B

A: ARCTIC
B: BALTIC
BS: BLACK SEA
FE: FAR EAST

Displacement:	15,450 tons *standard* (19.200 tons *full load*)
Dimensions:	Length: 656 (*pp.*), 689 (*o.a.*) feet. Beam: 70 feet. Draught: 16 (*mean*), 24½ (*max.*) feet.
Guns:	12—6 inch in four triple turrets (calibre actually 150 mm., slightly less than 6 inch), 12—3·9 inch (100 mm.) in six twin mountings, 32—37 mm. AA. in 16 twin mountings.
Tubes:	10—21 inch (quintuple mountings) none in *Oktyabrskaya Revolutsiya*.
Mines:	140 to 250 (fitted for minelaying Mine stowage on second deck)
Armour:	Deep and thick side belts from fore to after turret, 4"+; forward and aft 1½" to 2"; turret faces 5"; C.T. 6"; decks 1" to 2" and 2" to 3".
Machinery:	Geared turbines. 2 shafts. S.H.P.: 130,000=34·5 kts.
Boilers:	6
Oil fuel:	4,000 tons
Range:	5,000 miles at 20 kts.
Complement:	1,050

General Notes

Of the 24 ships of this class originally planned, it is reported that 20 keels were laid and 17 hulls were launched from 1951 onwards, but only 14 ships were completed and were operational by Dec. 1960. There are two slightly different types of " Sverdlov " class cruisers. The *Sverdlov* and others have the 37 mm. AA. guns near the fore-funnel one deck higher than in later cruisers.

Guided Missile Notes

It is reported that two "Sverdlov" class cruisers in the Black Sea have been fitted with sea-to-air guided missiles aft. *Admiral Nakhimov* is reported to have been fitted with a missile launcher aft, replacing the two gun turrets, and *Dzerzhinski* fitted with surface-to-air missile launcher aft in place of No. 3 or "X" turret.

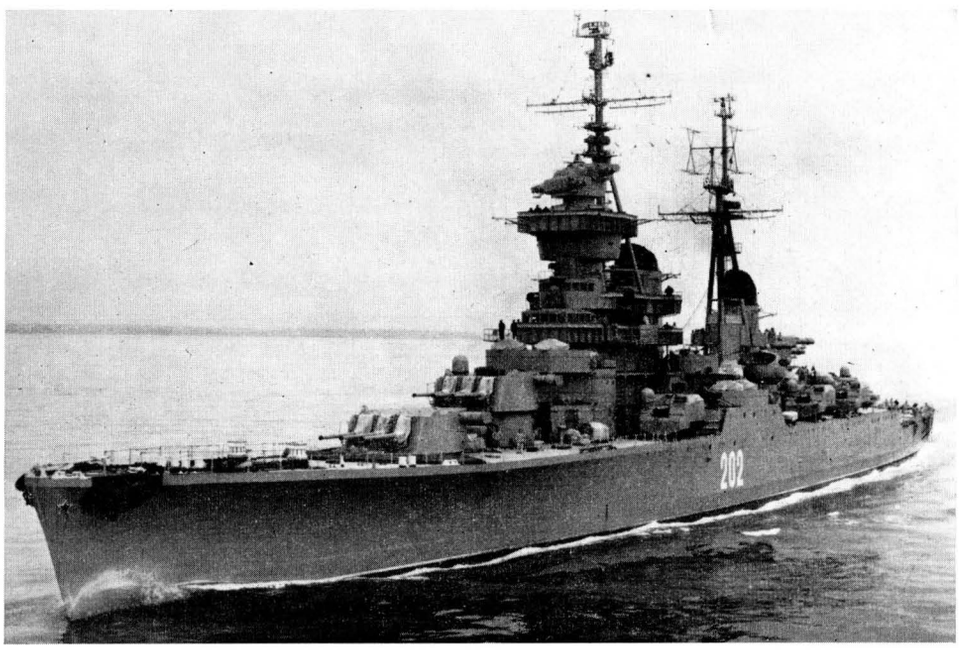
Recent Disposals

The uncompleted hulls of four " Sverdlov " class cruisers have been broken up at Leningrad.

Notes to Drawing

Port elevation and plan of " Sverdlov " class. Scale: 128=1 inch.

CC



OKTYABRSKAYA REVOLUTSIYA

1962, *Skyfotos*

Appearance Notes

The *Sverdlov*, *Ordzhonikidze* and *Zhdanov* have their anti-aircraft bridge near the fore funnel one deck higher than in other ships. The fore funnel is more enclosed in *Ordzhonikidze*. *Oktyabrskaya Revolutsiya* no longer has torpedo tubes.

Constructional Notes

These ships were originally designed for a displacement of 12,800 tons *standard* and 17,000 tons *full load*.

It is reported that the " Sverdlov " class may be limited to 14 units, that " Sverdlov " class cruiser construction is now suspended with 6 units remaining partially completed, and that these may be completed with an advanced armament or with guided missiles.

Photograph Notes

Photographs of *Admiral Ushakov*, *Aleksandr Suvorov*, *Ordzhonikidze* and *Sverdlov* in the 1953-54 to 1957-58 editions, and of *Oktyabrskaya Revolutsiya* (as *Molotovsk*) in the 1957-58 to 1959-60 editions (also large photograph showing midship details).

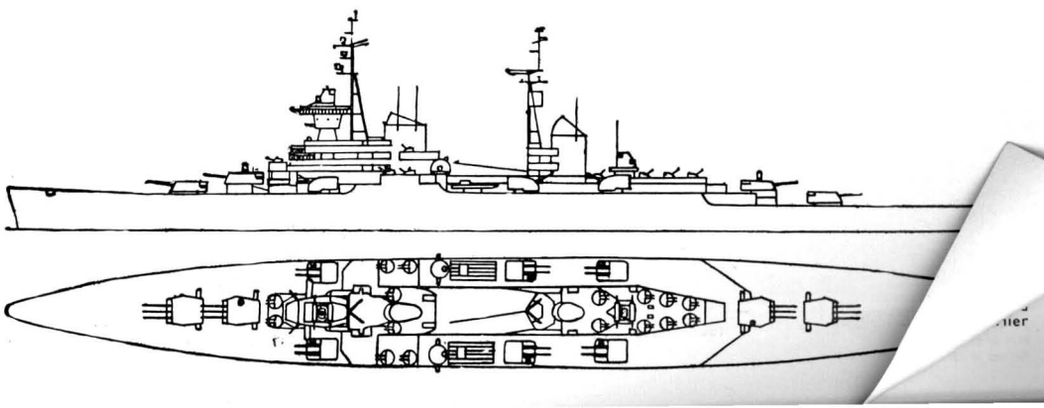
Nomenclature Notes

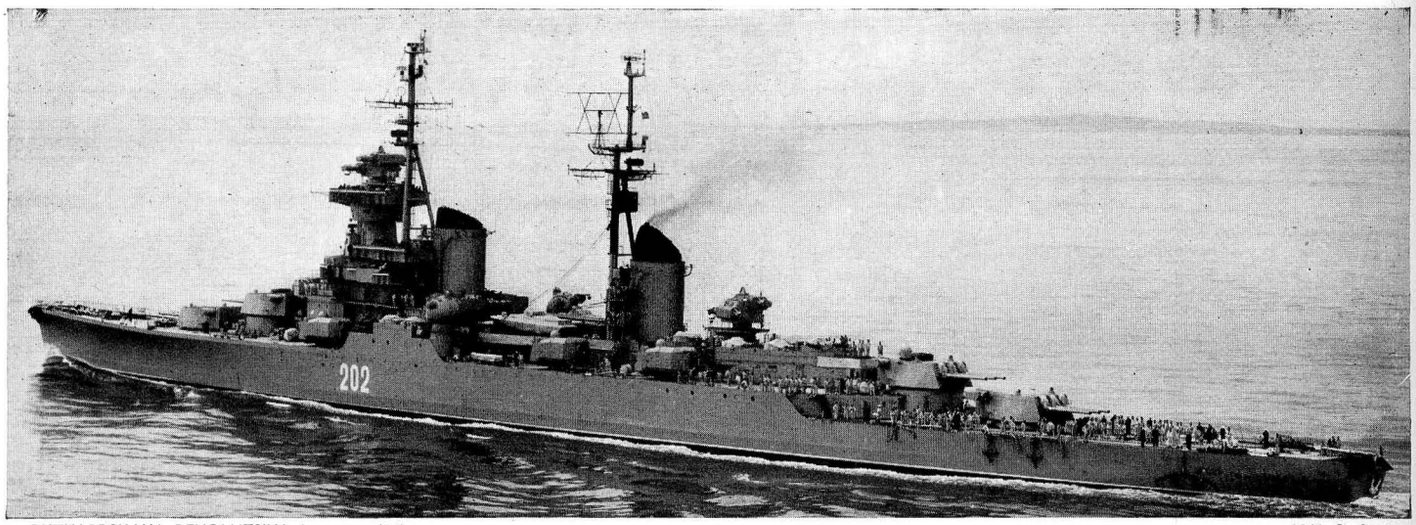
The ship first named *Molotovsk* was renamed *Oktyabrszkaya Revolutsiya* in 1957.

It was reported in 1962 that *Petropavlovsk* may be ex-*Kaganovitch*, of the " Kirov " class, now in the Chinese Fleet.

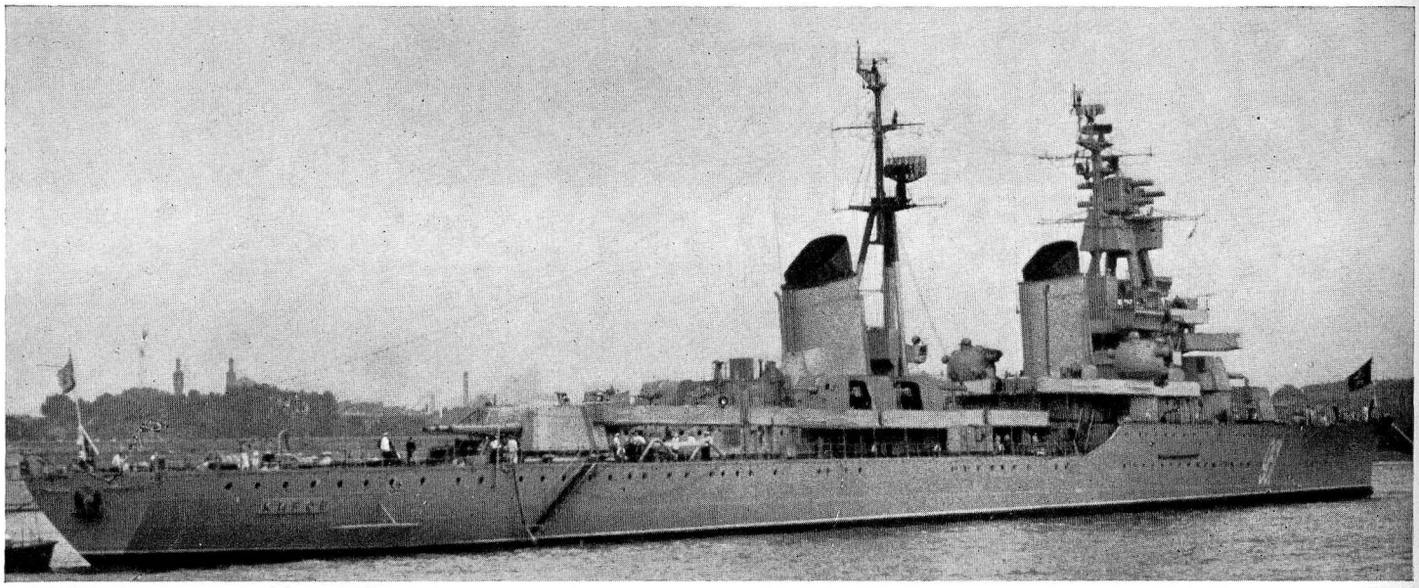
Transfer Notes

It was reported in 1962 that *Ordzhonikidze* was transferred to Indonesia and renamed *Irian*.

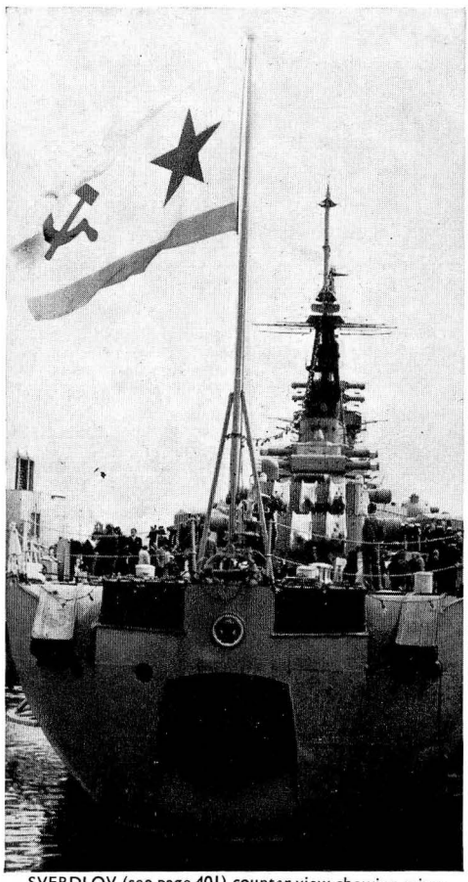




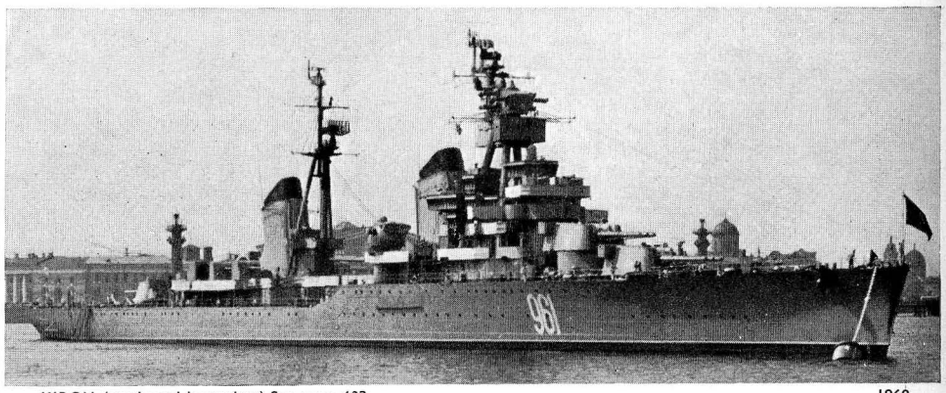
OKTYABRSKAYA REVOLUTSIYA (see page 401) 1961, *Skyfotos*



KIROV (starboard quarter view) See page 403 1960



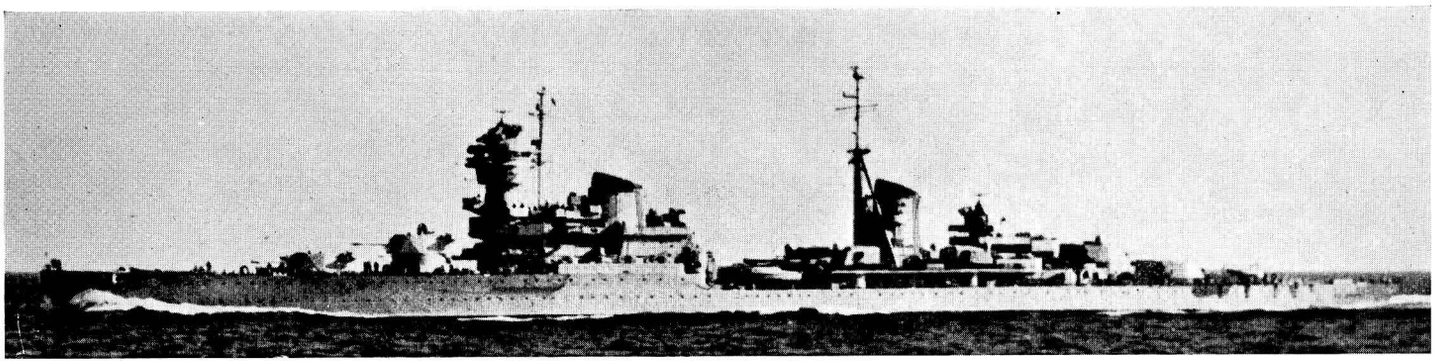
SVERDLOV (see page 401) counter view showing mine laying stern 1961, *Giorgio Arra*



KIROV (starboard bow view) See page 403 1960



SVOBODNYI (with new number) See page 406 1960



ZHELEZNYAKOV

1959, *Antonov Rogov*

4 " Chapaev " Class

CHAPAEV A
KOMSOMOLETS (ex-*Chkalov*)B
KUIBYSHEV BS
ZHELEZNYAKOV A

Displacement:	11,500 tons *standard* (15,000 ton *full load*)
Dimensions:	Length: 656 feet. Beam: 64⅔ feet. Draught: 21 feet
Guns:	12—6 inch in four triple turrets,8—4 inch AA., 28—37 mm. AA. (twin mounts)
Mines:	100 to 200
Machinery:	Geared turbines with diesels for cruising speeds. 2 shafts. S.H.P.: 113,000=35 kts.
Boilers:	6
Oil fuel:	3,500 tons
Radius:	4,500 miles at 20 kts.
Complement:	834

General Notes

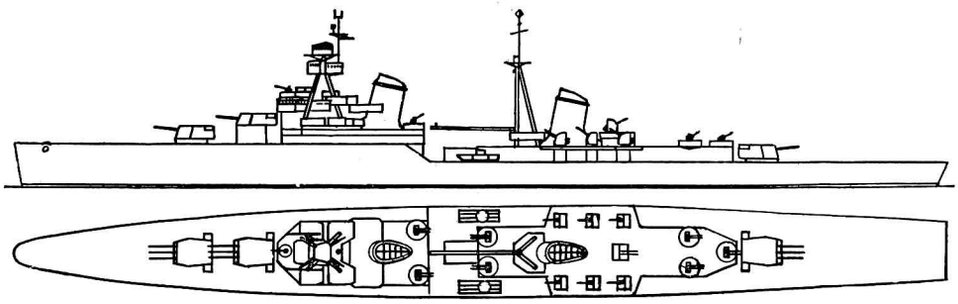
Laid down in 1939-40. Launched during 1941-47. All work on these ships was stopped during the war, but was resumed in 1946-47. Completed in 1948-50. Catapults were removed from all ships of this type. *Zheleznyakov* is in reduced status and serves as a training ship.

Gunnery Notes

Turret guns are in separate sleeves allowing independent elevation. Elevation at least 50 degrees.

Nomenclature Notes

Chkalov was reported to have been renamed *Komsomolets* in 1961.



Appearance Notes

These cruisers have heavy director on control tower, pole foremast and a tripod mainmast forward of the after funnel. Vertical funnels. All this class have higher freeboard and longer funnels than ships of the "Kirov" class. They resemble the "Sverdlov" class in several respects, but the forecastle deck breaks abreast the forefunnel instead of at the quarter deck.

Transfer Notes

It was reported in 1962 that *Chapaev*, *Komsomolets*, *Kuibyshev* and *Zheleznyakov* would be transferred, two to Egypt and one or two to Indonesia.

Notes to Drawing

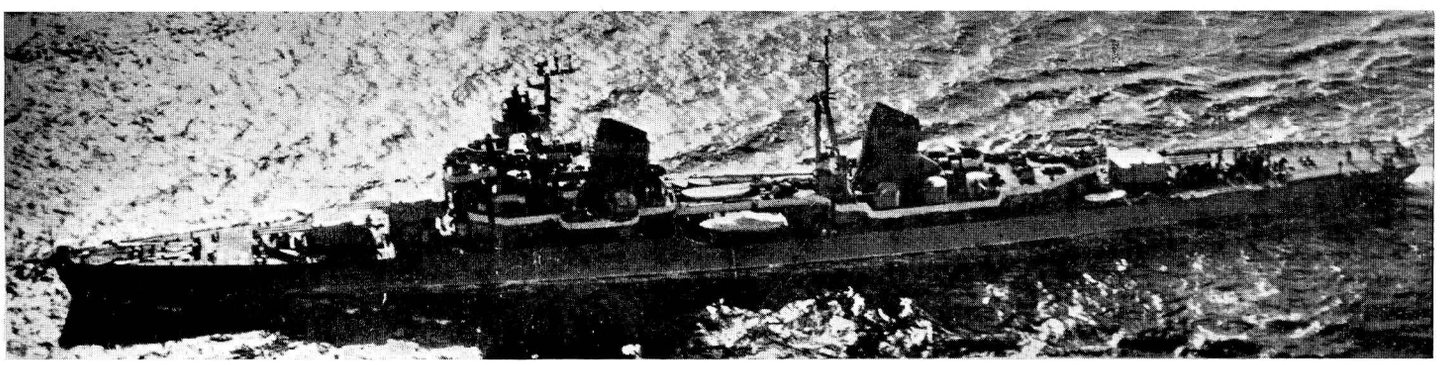
Port elevation and plan of "Chapaev" class. Drawn 1957. Scale: 128 feet=1 inch.

Photograph Notes

A port quarter view of *Zheleznyakov* appears in the 1952-53 to 1957-58 editions, and a starboard quarter view of *Chapaev* in the 1953-54 to 1959-60 editions.

Recent Disposals

Frunse is reported to have been discarded for disposal. Late in 1961 it was reported that *Chapaev* was being dismantled in a northern port.



KIROV

1959

2 " Kirov " and 2 " Maksim Gorki " Types

Kirov Type
KIROV B
SLAVA (ex-*Molotov*) BS
Maksim Gorki Type
KALININ FE
MAKSIM GORKI B

Displacement:	8,800 tons *standard* (11,500 tons *full load*)
Dimensions:	Length: 613½ (*pp.*), 626⅔ (*o.a.*) feet Beam: 59 feet. Draught: 17 (*mean*), 20 (*max.*) feet
Guns:	9—7·1 inch, 8—4 inch AA., 16—37 mm. AA., 6—13 mm. AA.
Tubes:	6—21 inch (in triple deck mountings)
Mines:	60 to 90
Armour:	3″ side, 2″ deck, 4″ gunhouses, 4 C.T.
Machinery:	Geared turbines with diesels for cruising speeds. 2 shafts. S.H.P.: 110,000=35 kts. (actually less)
Boilers:	6 Yarrow or Normand
Oil fuel:	2,500 tons
Radius:	3,500 miles at 19 kts.
Complement:	734

General Notes

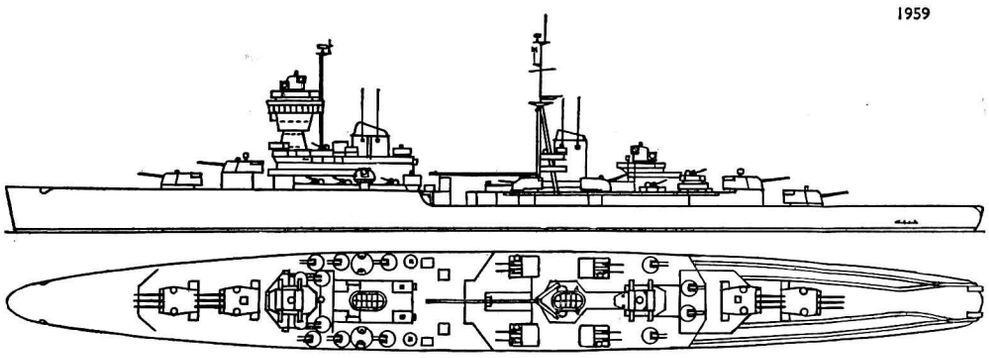
Design and technical direction of construction said to have been furnished by Ansaldo. One more ship named *Ordzhonikidze* under construction at Nikolayev, was wrecked by high explosives before the enemy occupied that port in August, 1941. At least one cruiser of this type (*Maksim Gorki*) was badly damaged in the Baltic in August, 1941.

Appearance Notes

First Group: *Kirov* and *Molotov* had very long forecastle, heavy tripod mast stepped abaft forebridge, light tripod stepped abaft second funnel, three turrets, very large funnels. Second Group: Remaining vessels had high director tower on forebridge, light tripod foremast abaft bridges, heavy tripod, mainmast stepped abaft second funnel, three turrets, smaller funnels, and generally lighter appearance than those of "Kirov" group.

Photograph Notes

A starboard bow view of *Kirov* appears in the 1957-58 edition. Her No. is now 961.



Name	*Builders*	*Laid down*	*Launched*	*Completed*
Kalinin	Komsomolsk Shipyards	1939	1945	1947
Kirov	Putilov D.Y.	1934	1 Dec. 1936	26 Sep. 1938
Maksim Gorki	Putilov D.Y.	1935	Dec. 1937	1940
Slava	Marti Yard, Nikolaye	1935	23 Feb. 1939	1944

Gunnery Notes

Triple guns are mounted in one sleeve and are incapable of individual elevation. Maximum elevation 40 degrees.

Nomenclature Notes

Molotov was reported to have been renamed *Slava* in 1962.

Notes to Drawing

Port elevation and plan of *Kirov* after conversion. Drawn in 1957. Scale: 128 feet=1 inch.

Transfer Notes

Kaganovitch is reported to have been lent or leased by Russia to the Chinese Communist Navy.

Recent Disposals

Voroshilov is reported to have been scrapped. *Maksim Gorki* is reported to be disarmed and in a bad state. *Kalinin* and *Slava* are no more than training hulks.

Recent Disposals of Older Cruisers

The very old Russian cruisers *Krasnyi Kavkaz* (ex-*Admiral Lazarev*) and *Krasnyi Krym* (ex-*Pronfitern*, ex-*Svietlana*) are hulks.

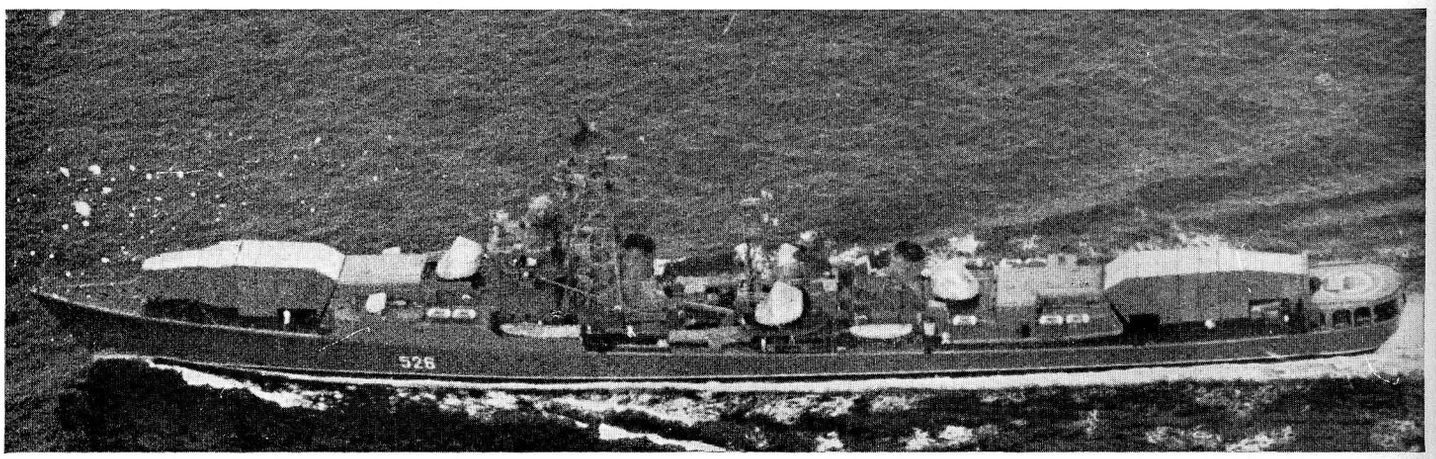
The old ex-German light cruiser *Admiral Makarov* (ex-*Nurnberg*), latterly used only as a stationary training hulk, is obsolete and worn out. She is reported to have been demilitarised prior to being scrapped at the Zhdanov Works in Leningrad.

The old ex-Italian light cruiser *Kertch* (ex-*Stalingrad*, ex-Z 15, ex-*Emanuele Filiberto Duca D'Aosta*) of similar vintage, was reported to have been lent or leased by Russia to the Roumainian Navy; but in 1961 it was reported she had been scrapped along with the hulk of *Krasnayn Krim*. See photographs, full particulars, plan and elevation drawings and silhouettes of both these cruisers in the 1959-60 and earlier editions.

GUIDED MISSILE ARMED DESTROYERS



No. 700 1962



KRUPNYI Class No. 526 1961

2 " Kynda " Class

Displacement:	3,900 tons
Dimensions:	466 × 46⅔ × 16½ feet
Guided Missiles:	Surface-to-surface launcher forward and surface-to-air
Guns:	57 mm. AA.
Tubes:	21 inch
Machinery:	Geared turbines. 2 shafts. S.H.P.: 100,000 = 38 kts.
Boilers:	3 high pressure
Complement:	390

Notes

This is a new class, a logical development of the earlier types of guided missile armed destroyers. Building to this design is believed to have commenced in 1961 and the first two units are reported to have been launched at Zhdanov Yard, Leningrad, the same year. Their appearance is similar to that of the "Krupnyi" class, but they have heavy lattice masts with funnels close up to them. In 1962 it was reported that several units had been launched.



No. 700 1962

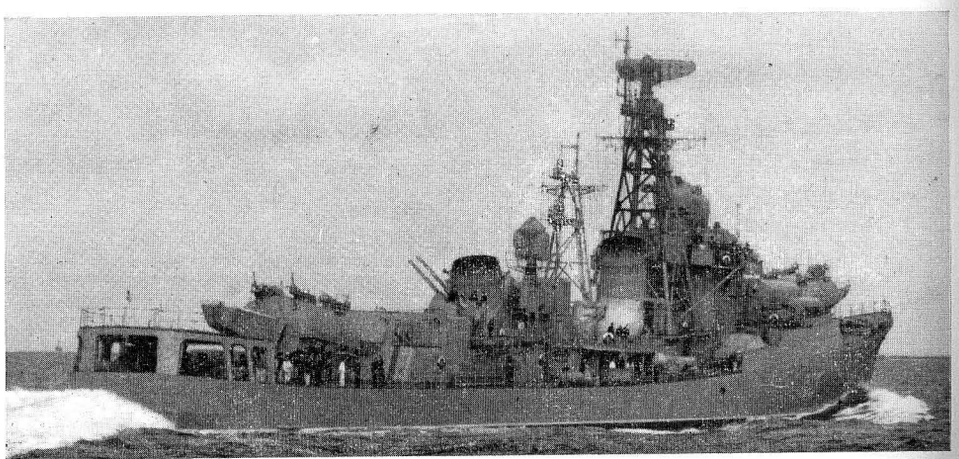
12 " Krupnyi " Class

No. 526 No. 700 No. 703 and others

Displacement:	3,500 tons
Dimensions:	453 × 44 × 16½ feet
Guided Missiles:	Sea-to-air launchers fore and aft (see *Notes*)
Guns:	16—57 mm. AA. in four quadruple mountings, 4—37 mm. AA. in two twin mountings
A/S weapons:	2 Triple-tube torpedo launchers
Machinery:	Geared turbines. 2 shafts. S.H.P.: 100,000 = 38 kts.
Boilers:	3 high pressure water tubes
Complement:	360

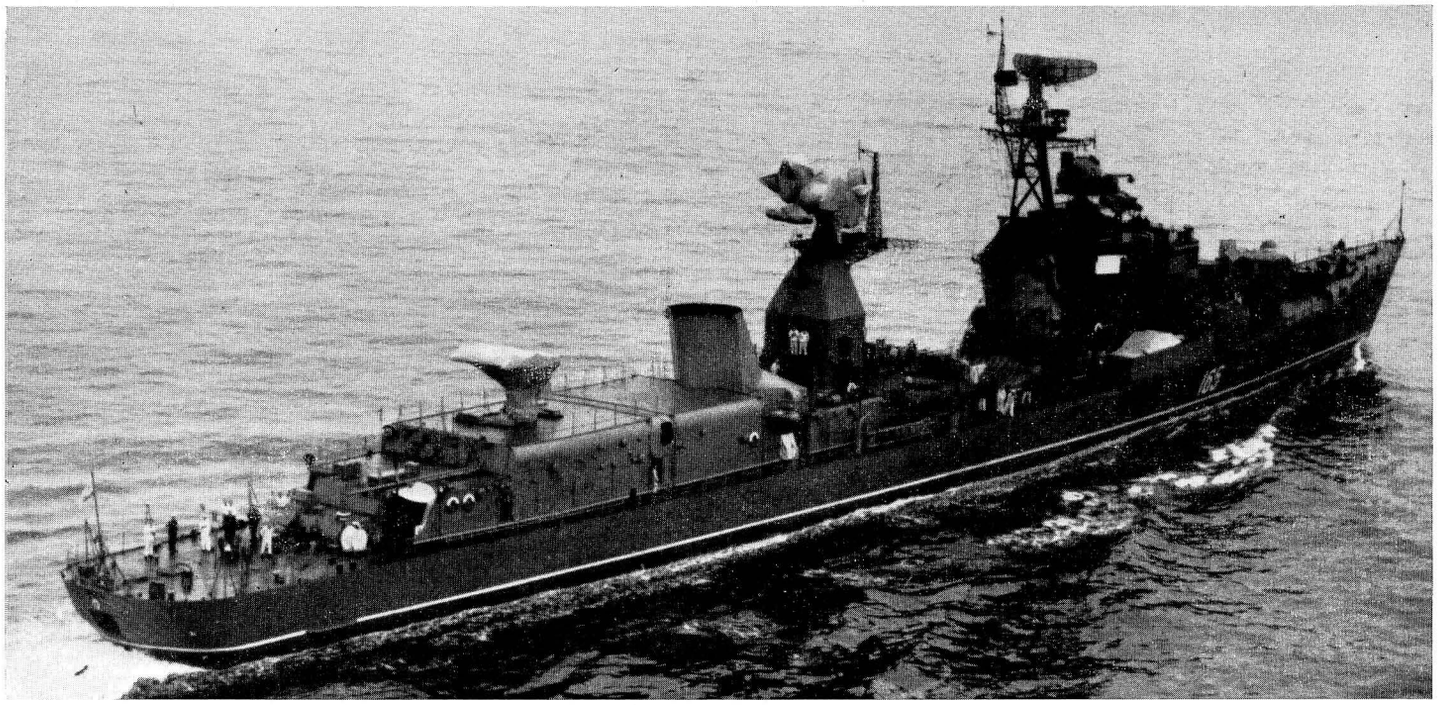
Notes

A new class of flush-decked destroyers designed to carry guided missiles. Helicopter spot landing apron on the stern. Initial construction in 1958 at Leningrad. Also reported to be fitted with surface-to-surface missile launchers.



No. 703 1962

Guided Missile Armed Destroyers—*continued*



No. 165 1962, *Beck*

4 " Kildin " Class
Converted " Kotlin " Type

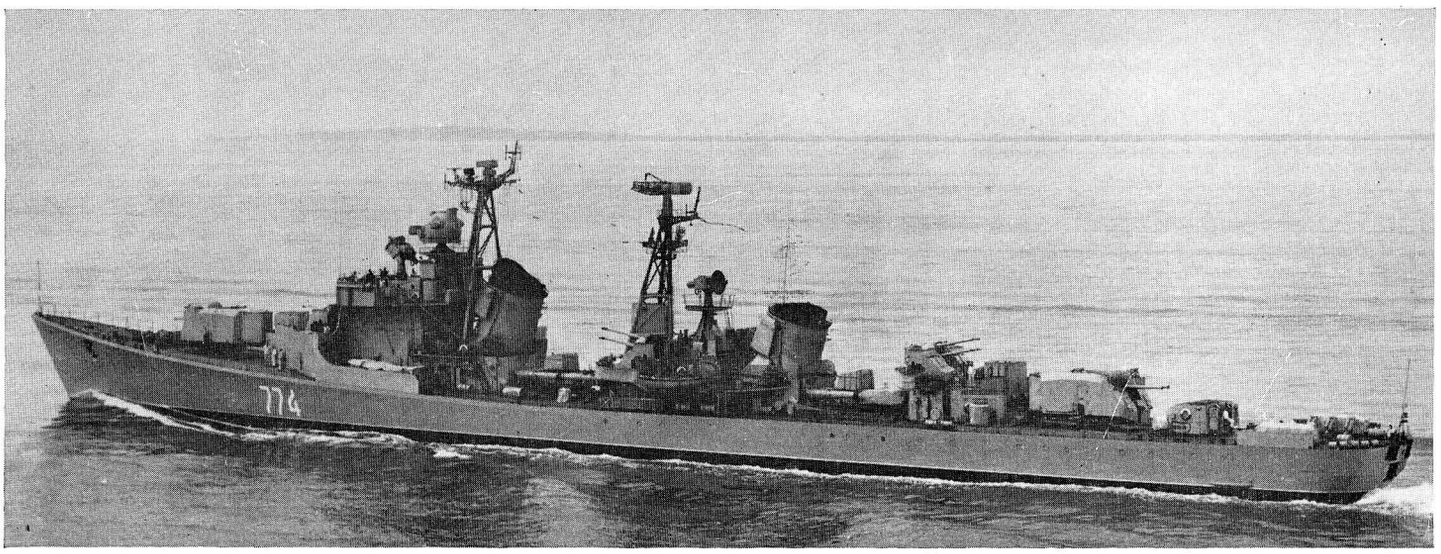
No. 165 and others

Displacement:	3,000 tons *standard* (see *Notes*)
Dimensions:	423¼ × 43⅓ × 15½ feet
Guided missiles:	Surface-to-surface launcher aft
Guns:	2—3·9 inch d.p. in twin turret forward; 12—57 mm. AA. in three quadruple mountings
Machinery:	Geared turbines. 2 shafts. S.H.P.: 80,000 = 38 kts.
Boilers:	3
Complement:	300

Notes

Large destroyers of the "Kotlin" type reported to have been redesigned as guided missile destroyers with launcher installed in place of the after gun mountings. Identified by NATO designation as the "Kildin" class. The first of this class is reported to have been commissioned in 1958. At least one of the completed units are reported to be in the Baltic Fleet.

DESTROYERS



KOTLIN Class No. 774 1961, *Skyfotos*

27 " Kotlin " Class
Flushdecked Fleet Type

BESSLEDNYI
BURLIVYI
No. 32 **No. 77**
No. 75 **No. 78**

VDOKHNOVENNYII
VOZMUSHCHENNY
No. 79 **No. 86** **No. 502**
No. 82 **No. 95** **No. 774**
and others

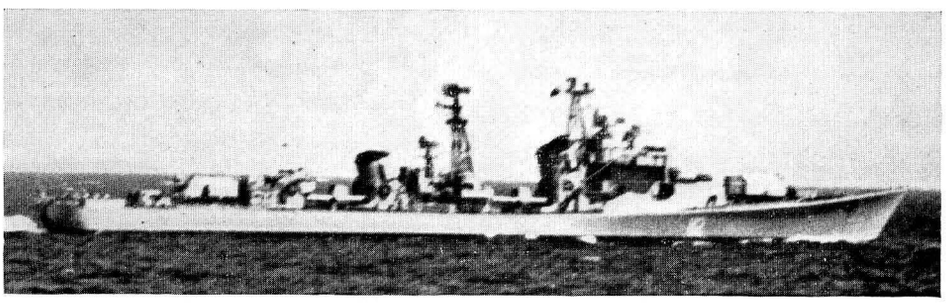
Displacement:	2,850 tons *standard*, (3,885 tons *full load*)
Dimensions:	425 (*o.a.*) × 41½ × 16 (*max.*) feet
Guns:	4—3.9 inch d.p. in two twin turrets; 16—57 mm. AA., in four quadruple mountings
Tubes:	10—21 inch
A/S Weapons:	6 side thrown depth charge projectors
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 80,000 = 38 kts.
Boilers:	4
Complement:	285

General Notes

Improved versions of the "Tallinn" type with similar hulls but differing features. This class of fast anti-aircraft and anti-submarine destroyers, built in 1954-57, were apparently designed for mass production. 27 ships were built. No. 32 and No. 86 have been observed in the Baltic. No. 78 is reported to have been sighted in the Red Sea in 1957. *Besslednyi* and *Burlivyi* are believed to have been transferred from the Black Sea Fleet to the Pacific Fleet in 1957. *Vdokhnovennyi* and *Vozmushchennyi* are in the Pacific Fleet.

Modernisation Notes

It is reported that the U.S.S.R. is converting many units of the "Kotlin" class in a programme similar to the U.S. Navy's FRAM programme, with extensive modifications in anti-submarine warfare, electronics and anti-aircraft armament. Several of the class are fitted with a helicopter platform abaft the after mounting, and at least one ship is fitted with a surface-to-air twin missile launcher aft.



No. 82 *Added* 1958

Anti-Submarine Notes

It is reported that the six depth charge throwers are mounted on rotating platforms at the stern.

Photograph Notes

Another photograph of the "Kotlin" class, a port near broadside surface view at sea, appears in the 1957-58 to 1960-61 editions.

Class Notes

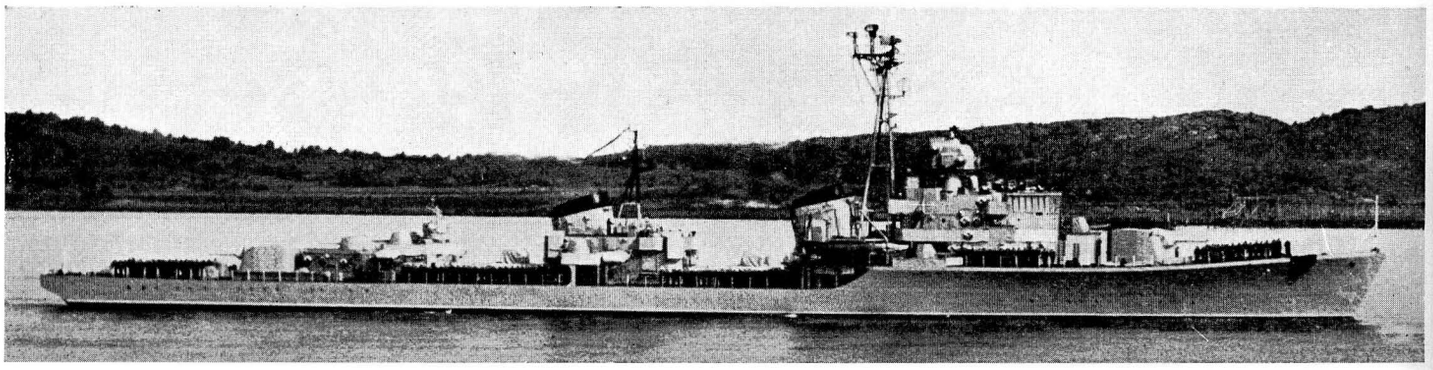
The "Kotlin" class are also kown as the "DB" type.

Destroyers—*continued*



SVOBODNYI (No. is now 787 instead of 14)

1957, *Skyfotos*



OTVETSVENNYI

1957, *Photo*

72 " Skoryi " Class

BDITYELNYI
BESSMENNYI
BESSPOKINYI
BESSTRASHNYI
BEZUKORIZNENNYI
BEZSHUMNYI
BODRI
BOIKI
BYSTRYI

and **3 others** with B names in the Black Sea.

OBRAZOVANNY
OGNENNY
OSMYSLENNYI
OSNOVATELNY
OSTERVENELYI
OSTOROZHNYI
OSTROGLAZY
OTCHAIANNY
OTRETOVENNYI
OTVETSVENNYI
OZHESTOCHONNYI
OZHIVLENNYI
OZLOBLIONNY

and **3 others** with O names in the Artic.

SERDITYI
SEREZNYI
SMELYI
SMOTRYASHCHY
SMYSHLYONYI
SOKRUSHYTELNYI
SOLIDNYI
SOOBRAZITELNYI
SOVERSHENNYI
SPOSOBNYI
STATNYI
STEPENNYI
STOIKI
STREMITELNYI
SUROVYI
SVOBODNYI

and **4 others** with S names in the Baltic.

VAZHNYI
VDUMCHIVYI
VEDUSHCHII
VERNYI
VIDNYI
VIKHREVOI
VNEZAPNYI
VNIMATELNYI
VOLEVOI
VOZBUZHDONNYI
VRAZUMITELNYI
VYDERZHANNYI

and **12 others** with V names in the Far East.

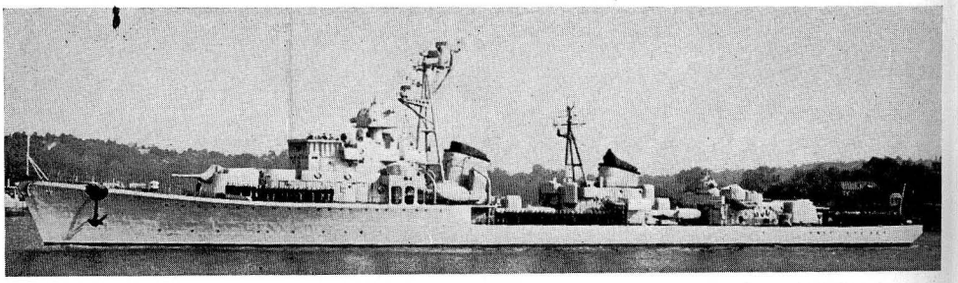
Displacement:	2,600 tons *standard* (3,500 tons *full load*)
Dimensions:	393¾ (*pp.*), 420 (*o.a.*) × 41 × 13⅛ feet
Guns:	4—5·1 inch (twin), 2—3 inch AA., 7—37 mm. AA. (Some have 8—37 mm. AA. in twin mounts) See *Modernisation Notes*
Tubes:	10—21 inch
A/S weapons:	4 D.C.T.
Mines:	80
Machinery:	Geared turbines 2 shafts. S.H.P.: 70,000 = 38 kts.
Boilers:	3
Radius:	4,000 miles at 15 kts.
Complement:	250

General Notes

There were to have been 85 destroyers of this class, but their construction beyond 72 units is reported to have been discontinued in favour of later types of destroyers. There are now tactical "500 and 700" series. Numbers observed include 580, 787 and 789.

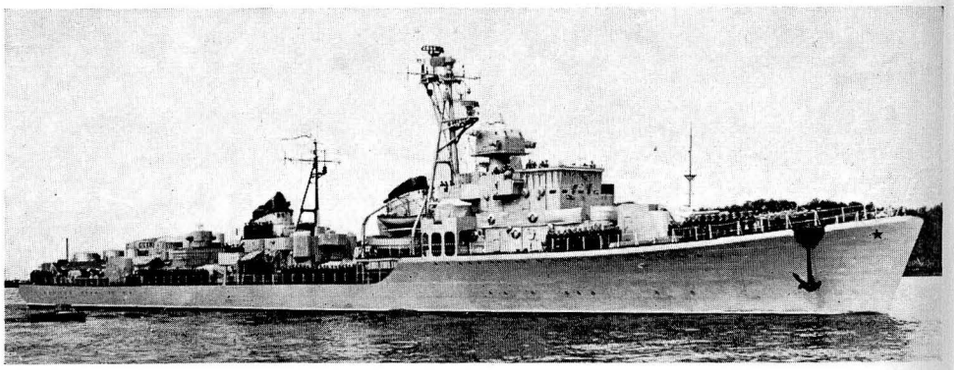
Gunnery Notes

They are equipped with modern target finding and gun sighting radar for the 5·1 inch guns in two twin turrets, and they also carry depth charge throwers.



OTCHAIANNY

Sept. 1958, *Ossi Janson*



OZJESTOTJONNYI

1957 *Photo*

Modernisation Notes

Many units of the "Skoryi" class are being converted under a fleet rehabilitation and modernisation programme with extensive alterations to anti-aircraft armament, electronics, and anti-submarine weapons. Many ships have had "A" turret suppressed, with A/S launchers in lieu and two twin 57 mm. AA. guns abreast the bridge, director removed and local control fitted aft for "Y" mounting.

Appearance Notes

There are three different types in this class, the anti-aircraft guns varying with twin and single mountings; and two types of foremast, one vertical with all scanners on top and the other with one scanner on top and one on a platform half way.

Transfer Notes

Of this class *Skoryi* and *Smetlivyi* were transferred to the Polish Navy in 1957-58. Two sister ships were transferred to the Egyptian Navy in 1956. Four more units were transferred to the Indonesian Navy in 1959.

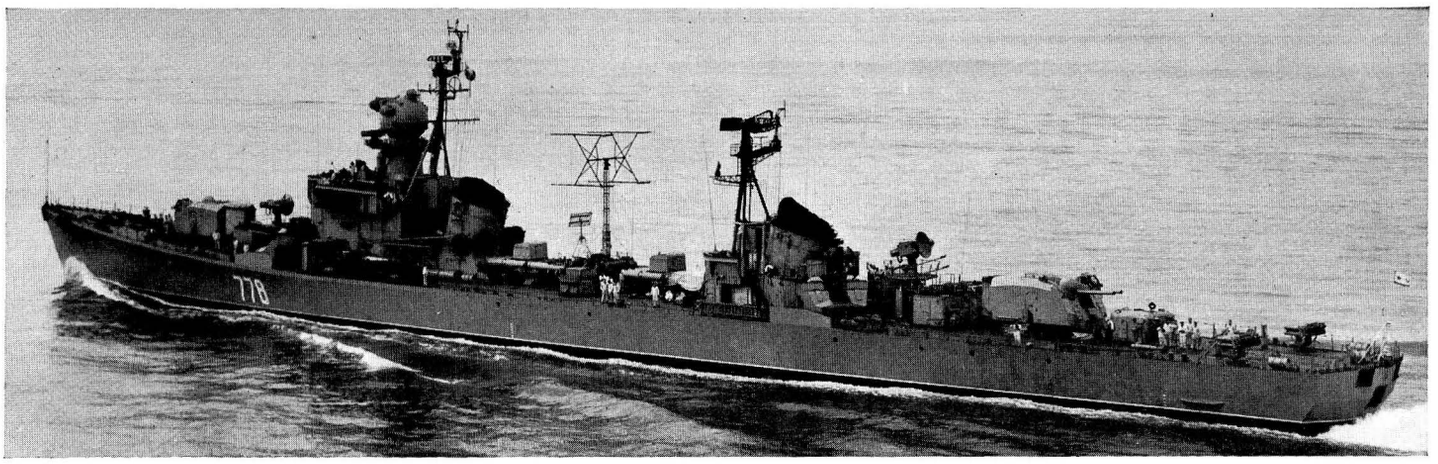
Nomenclature Notes

The names of "Skoryi" class destroyers are apparently based on their fleet assignment. Those in the Black Sea have names beginning with B, those in the Northern Fleet have names beginning with O, those in the Baltic have names beginning with S and those in the Pacific Fleet have names beginning with V. This is the only class to which names appear to be applied to indicate fleet designation. Whether the name is altered with a change in fleet assignment is not clear, but it seems that this might be the case when the change is permanent.

Photograph Notes

Photographs of *Stepennyi*, *Sposobnyi* and *Surovyi* appear in the 1954-55 to 1957-58 editions, and a large broadside view of *Smotryashchy* in the 1957-58 to 1959-60 editions. A port bow oblique elevated view of *Svobodnyi*, with new number appears on page 402.

Destroyers—*continued*



TALLINN Type No. 778

1961, *Skyfotos*

"Tallinn" or "Novik" Class Flushdecked Fleet Type

NEUSTRASHIMYI

Displacement:	3,200 tons *standard* (4,500 tons *full load*) see *General Notes*
Dimensions:	433 (*o.a.*) × 44 × 15½ feet
Guns:	4—3·9 inch semi-automatic d.p. in two twin turrets, 16—57 mm. AA. in four quadruple mountings
Tubes:	10—21 inch in two quintuple mountings
A/S weapons:	2 depth charge rocket launchers
Mines:	70 to 100 according to size and type
Machinery:	Geared turbines. 2 shafts. S.H.P.: 100,000=38 kts. (see *General Notes*)
Boilers:	4 water tube
Oil fuel:	1,000 tons
Radius:	2,500 miles at 18 kts.
Complement:	340

General Notes

A multi-purpose anti-aircraft, anti-submarine and mine-laying prototype for fleet escort and flotilla leader duties. Displacement is also reported as 3,100 tons *light* and 3,500 tons *normal*, with three boilers and geared turbines of 80,000 shaft horse power equal to a speed of 39 kts. Neustrashimyi means Unfearing.

Gunnery Notes

The 3·9 inch guns in twin turrets are similar to those mounted as secondary armament in the "Sverdlov" class cruisers including firing directors and control position, fully stabilised, forming a part of the bridge and mast. This was the first time such an armament had been contrived in a ship of destroyer size, an experiment in top weight.

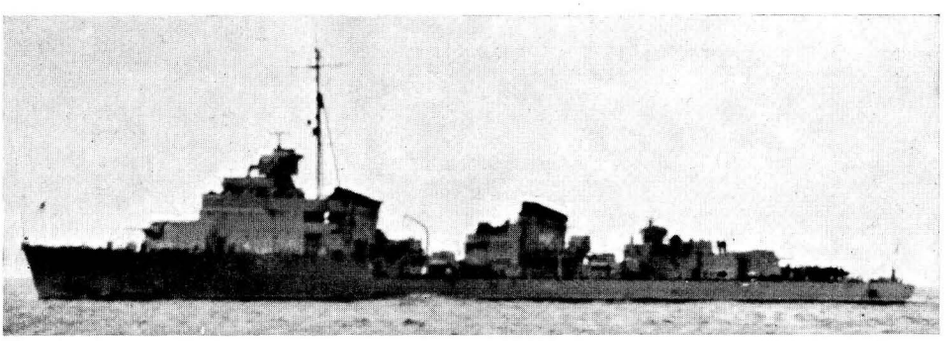
Class Notes

The "Novik" or "Tallinn" class (Nato designation) is also known as the "DA" type. It is reported that there is only a single "Tallinn" class ship, which was a prototype for the "Kotlin" class, but she has carried several different pennant numbers, including No. 76, see photograph in the 1956-57 to 1960-61 editions.

11 "Otlichnyi" Class

OBRAZTSOVYI	B	**OTKHOTLIVYI**	A
ODARENNI	B	**OTLICHNYI**	B
OGNEVOI	BS	**OTVAZHNYI**	B
OPASNYI	BS	**OZORNOI**	BS
OSMOTRITELNYI	A	**OZARNYI**	

Displacement:	1,800 tons *standard* (2,650 tons *full load*)
Dimensions:	387⅛ × 36¾ × 12½ feet
Guns:	4—5·1 inch, 55 cal. (twin mounts), 2—3 inch AA., 6—37 mm. AA.
Tubes:	8—21 inch
A/S weapons:	4 D.C.T.
Mines:	60 to 80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=38 kts.
Boilers:	3
Oil fuel:	370 tons
Complement:	212



OTLICHNYI

1959, *Antonov Rogov*

Notes

There are 11 destroyers of this class, although only ten names have been reported. They are a development of the "S" and "R" classes. The 5·1 inch guns are disposed in one twin mounting before the bridge and one aft. Five other names previously reported of this class, *Ognenny*, *Osmyslennyi*, *Ostervenelyi*, *Otretovennyi* and *Ozhestochonnyi* are now believed to be borne by "Skoryi" class destroyers in the Arctic. *Osmotritelnyi* means "Cautious" or "Circumspect," *Osmyslennyi* means "Sensible," and *Ostervenelyi* means "Frenzied." All names are adjectives. A in Arctic, B in Baltic, BS in Black Sea.

8 "Ryanyi" Class

RASTOROPNYI	**RESHITELNYI**
RAZUMNYI	**RESKI**
RAZYARYONNYI	**RESVI**
RAZYASHCHYI	**RETIVI**
REDKI	**REVOSTNYI**
REKORDNYI	**RYANYI**

Displacement:	1,700 tons *standard* (2,500 tons *full load*)
Dimensions:	377 × 36⅔ × 14⅔ feet
Guns:	4—5·1 inch, 55 cal., 2—3 inch, 3—37 mm. AA., 4—13 mm. AA.
Tubes:	6—21 inch (tripled)
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=39 kts.
Boilers:	3
Complement:	240

General Notes

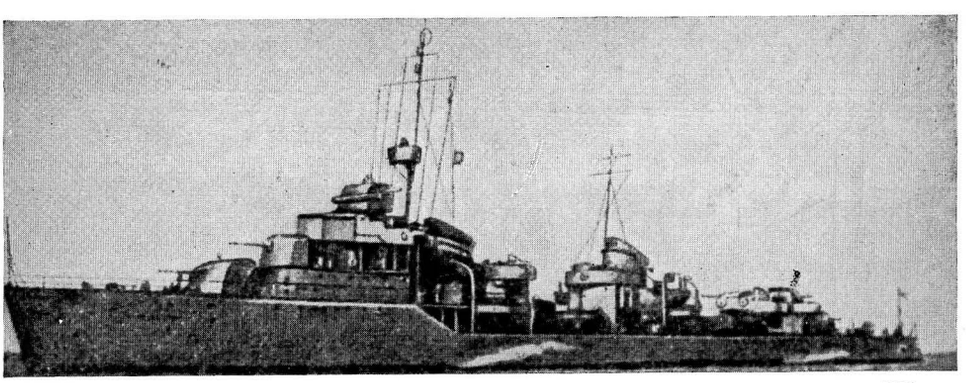
These "R" boats, launched in 1939-44, are of a later type than the "Gromki" and "Silnyi" classes. Nearly all are in the Far East. *Razumnyi* and *Razvaryonnyi* are in the Arctic. "Redki" means "Rare."

Appearance Notes

Some of these vessels, including *Rastoropnyi*, *Razumnyi* and *Razyaryonnyi*, are like the "Gromki" class with one funnel; others, including *Ryanyi*, are like the "Silnyi" class with two funnels.

Transfer Notes

Four of this class have been transferred to the Chinese Communist Navy, but the names have not been reported.



RYANYI

1954

Vnimatelnyi Class Notes

Of the four "Vnimatelnyi" class destroyers previously listed, the continued existence of *Vlastnyi*, *Vnushitelnyi* and *Vynoslivyi* is doubtful, and the new name of ex-*Vnimatelnyi* has not been reported (photograph of *Vnushitelnyi* in the 1957-58 to 1959-60 editions).

Disposal Notes

The very old Russian destroyer *Nezamoshnik*, sole survivor of the "Petrovski" class, and the very old destroyers *Karl Liebknecht*, *Kribyshev*, *Stalin*, *Uritski* and *Voikov* of the "*Uritski*" class are now worn out; they are being scrapped or used for training hulks.

Disposal of Prizes

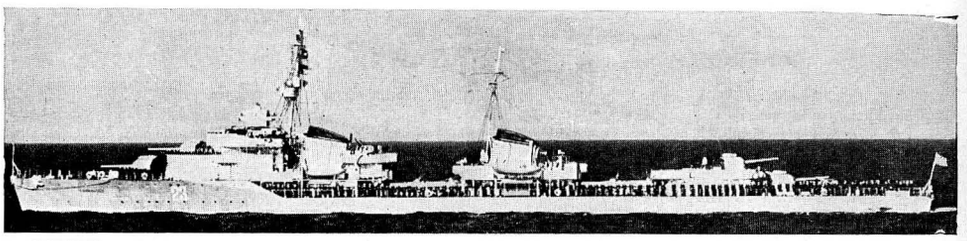
The large ex-Japanese destroyer *Harutsuki*, the large ex-German destroyer *Provornyi* (ex-Z 33), the smaller ex-German destroyer *Primernyi* (ex-*T* 33), the ex-Italian destroyers *Artigliere* (ex-Z 12), and *Fucliere* (ex-Z 20), the old ex-German destroyers *Prochnyi* (ex-*Karl Galster*, Z 20), *Pylki* (ex-*Erich Steinbrinck*, Z 15) and *Zhorki* (ex-*Friedrich Inn*, Z 14) and the old ex-Japanese destroyer *Hibiki*, all taken over by the Russian Navy as war prizes or share of the Allied war reparations after the Second World War, are now worn out and are of little or no military value; they are used merely as training ships or are hulks, and all are expected to be disposed of in the near future.

Destroyers—*continued*

8 " Silnyi " Class

SILNYI
SLAVNYI
STOROZHEVOI
STRASHNYI
STROGI
STROINYI
SVIREPYI
VICE ADMIRAL DROZD (ex-*Stoiki*)

Displacement:	1,686 tons *standard* (2,150 tons *full load*)
Dimensions:	367 (*pp.*), 371 (*o.a.*) × 33 × 14 feet
Guns:	4—5·1 inch, 2—3 inch, 50 cal. AA., 4—37 mm. AA., 4—20 mm. AA.
Tubes:	6—21 inch
Mines:	Stowage for 80 mines reported
Machinery:	Geared turbines. 2 shafts. S.H.P.: 48,000 = 36 kts.
Boilers:	3 of 3-drum type
Oil fuel:	500 tons
Complement:	240



SVIREPYI 1948

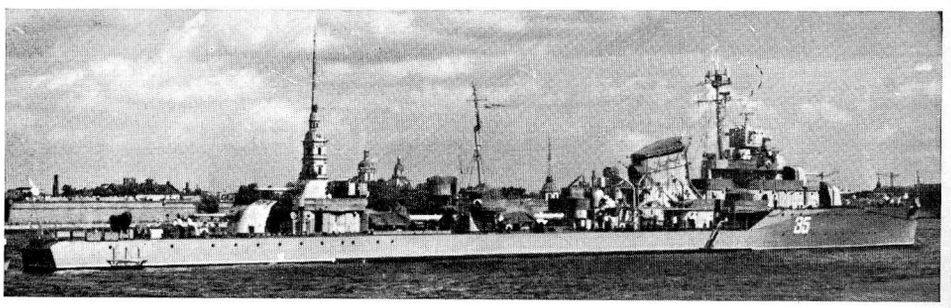
Notes

All launched in 1938-40. Improved " Gordyi " class. The armament of *Storozhevoi* has been altered, with one twin turret forward, and she differs in appearance from other vessels of class. All in the Baltic. War losses: *Serdityi*, *Skoryi*, *Smishlyonyi*, *Smelyi*.

5 " Gromki " Class

GREMYASHCHYI
GROMKI
GROZNYI
GROZYASHCHYI
STEREGUSHCHYI

Displacement:	1,657 tons *standard* (2,150 tons *full load*)
Dimensions:	357⅔ (*pp.*), 377 (*o.a.*) × 33½ × 13 feet
Guns:	4—5·1 inch, 2—3 inch, 50 cal. AA., 4—37 mm. AA., 8 D.C.T
Tubes:	6—21 inch (tripled)
Mines:	100
Machinery:	Geared turbines of Tosi design. shafts. S.H.P.: 50,000 = 36 kts.
Boilers:	3 of 3-drum type
Oil fuel:	500 tons
Complement:	240



STEREGUSHCHYI 1959

Notes

All launched in 1936-41. Fitted for minelaying. Better sea boats than *Leningrad* class, having less top weight. They are understood to be of Odero-Terni-Orlando design. *Gromki* now has a tripod foremast. *Gremyashchyi*, *Gromki* and *Groznyi* are in the Arctic, *Grozyashchyi* and *Steregushchyi* are in the Baltic. It is reported that *Bdityelnyi*, *Bodri* and *Boiki* are being scrapped, and that most or all of the remainder of this class will be scrapped in the near future.

War losses: *Gnevnyi*, *Gordyi*, *Grozovoi*, *Gromyashchi*, *Bezposhchadny*, *Bezuprechnyi*, *Bystryi*, *Bezshumnyi*, *Bezstrashnyi*, *Smetlivyi*, *Stremitelnyi*, *Sokrushytelnyi*. Two war losses, *Bdityelnyi* and *Steregushchyi*, were salved and put in service.

3 " Leningrad " Class

BAKU **LENINGRAD** **MINSK**

Displacement:	2,225 tons *standard* (2,582 tons *full load*)
Dimensions:	400 (*pp.*), 418½ (*o.a.*) × 38½ × 13 feet
Guns:	4—5·1 inch, 55 cal., 2—3 inch, 50 cal. AA., 5—37 mm. AA. 4 D.C.T.
Tubes:	8—21 inch (quadrupled)
Machinery:	Geared turbines. 3 shafts. S.H.P.: 70,000 = 38 kts. (Trials of *Leningrad*, light, 39·3 kts.)
Boilers:	3 of 3-drum type
Oil fuel:	600 tons

General Notes

Built during 1933-1941. *Leningrad* was launched in 1935. Fitted for minelaying. Formerly rated as " Lidery " (flotilla leaders). These ships resembled the contemporary French *Contretorpilleurs*, and the construction of earlier units was supervised by French technical experts. The 5·1 inch gun abaft the bridge has been removed. *Baku* is in the White Sea, *Leningrad* and *Minsk* are in the Baltic.

Photograph Notes

A photograph of *Minsk* appears in the 1948-49 to 1959-60 editions.

War losses: *Moskva*, *Kharkov*.

It is reported that the survivors of this class will be scrapped in the near future.

Recent Disposals

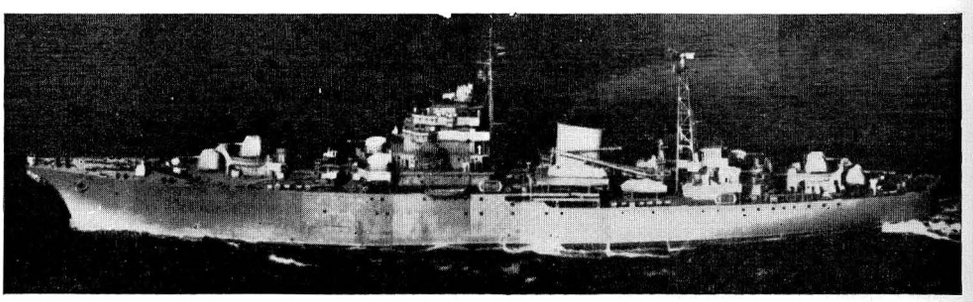
The " T " boats of the " Leningrad " class, *Tbilissi*, *Tomsk*, *Tula* and *Tver*, in the Far East, are reported to be for disposal. The hulls of *Batum*, *Ochakov* and *Perekop* were lying at Batum at end of 1941 and they were reported to have been completed in 1946-47, but there is no confirmation of this.

The experimental destroyer *Opytnyi* (ex-*Sergei Ordzhonikidze*) has been scrapped.

ESCORT SHIPS

Oceangoing Support Type " Don " Class

Displacement:	4,750 tons *standard* (6,000 tons *full load*) (see *Notes*)
Dimensions:	426½ × 49 × 17 feet
Guns:	4—3·9 inch; 12—37 mm. AA.
Mines:	80
Machinery:	Diesels. Speed about 21 kts.
Complement:	300



"Don" Class 1960

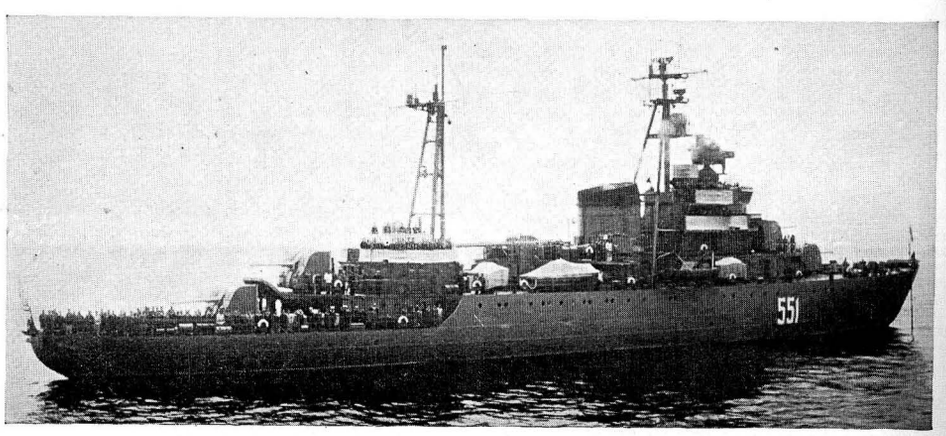
Notes

A new type of vessel of an enlarged and improved " 551 " class, but with more anti-aircraft guns. The design is interesting as a hybrid, and the category is open to discussion. It has been described as cruiser, frigate, minelayer, gunboat, training ship, escort vessel, and depot ship. The normal displacement is estimated at between 4,250 and 5,000 tons, but it has been put as low as 3,200 tons and as high as 6,000 tons.

Frigate Type " 551 " Class

No. 551

Displacement:	2,250 tons *standard* (see *Notes*)
Dimensions:	325 × 40 × 14 feet (see *Notes*)
Guns:	4—3·9 inch; 8—37 mm. AA. (see *Notes*)
Mines:	50
Machinery:	Diesel. Speed about 20 kts. *max.* (see *Notes*)
Complement:	200



No. 551 1959

Notes

Very sturdy oceangoing cruising vessels of the frigate or large sloop or gunboat type equipped for minelaying and adapted for employment as gunnery firing ships and officers' training ships. These hybrid vessels are fitted with directors similar to those in the " Riga " class frigates. This type is also reported to have a displacement of 2,500 tons standard with an overall length of 407 feet, a main armament of four 4·1 inch guns, and a secondary armament of eight 45 mm. anti-aircraft guns, also four 25 mm. AA. guns. But the displacement has been put as low as 2,000 tons with a length of 295¼ (*pp.*) feet and 318¼ (*w.l.*) feet, and a speed of 18 kts.

FRIGATES

12 " Kola " Class

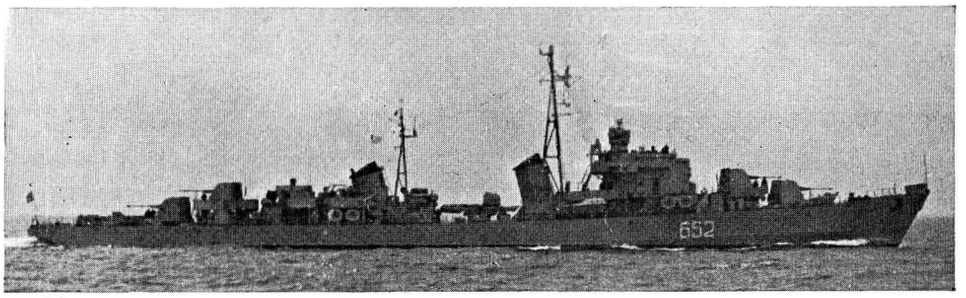
Flushdecked Destroyer Escort Type

DOBLESTNY	**DZERSKI**	**No. 622**
DOSTOINI	**DZGUTSHI**	**No. 632**
DRUSHNY	**DZIVUTSHI**	**No. 639**
DSKARKI	**DZOSTKI**	**No. 652**

Displacement: 1,500 tons *standard*, 2,000 tons *full load*
Dimensions: 295 (*pp.*), 305 (*o.a.*) × 32¾ × 10 (*mean*), 11 (*max.*) feet
Guns: 4—3·9 inch AA. (single mounts), 4—37 mm. AA.
Tubes: 3—21 inch
A/S weapons: Depth charges and racks
Machinery: Geared turbines. 2 shafts. S.H.P.: 30,000=31 kts.
Boilers: 2
Complement: 190

General Notes

In design this new class of flushdecked destroyer escort appears to be a combination of that of the German " Elbing " type torpedo boat destroyers, with a similar hull form, and of the older Russian " Birds " class frigates, (see below). The four 3·9 inch guns, which are similar to the main armament in the " Birds " class frigates are mounted as in the " Gordyi " class destroyers. It is reported that eight units of this class are in the Baltic and four in the Far East.



652 *Added 1957*

Nomenclature Notes

The names above are not confirmed. The last five names are also rendered *Zharki* (*Dskarki*), *Zherski* (*Dzerski*), *Zhgutsh* (*Dzgutshi*), *Zhivutshi* (*Dzivutshi*) and *Zhostki* (*Dzostki*). The numbers of those in the Far East are reported as 622, 632, 639 and 652.

64 " Riga " Class

No. 50	**No. 168**	**No. 642**	**No. 651**
No. 54	**No. 324**	**No. 645**	**No. 656**
No. 55			**and others**

Displacement: 1,200 tons *standard* (1,600 tons *full load*)
Dimensions: 278¾ (*pp.*), 295 (*o.a.*) × 31½ × 9½ (*mean*), 11 (*max*) feet
Guns: 3—3·9 inch dual purpose single mounts, 3—37 mm. AA.
Tubes: 3—21 inch
A/S weapons: 4 depth charge projectors
Mines: Fitted with mine rails
Machinery: Geared turbines. 2 shafts. S.H.P.: 25,000=28 kts.
Boilers: 2

General Notes

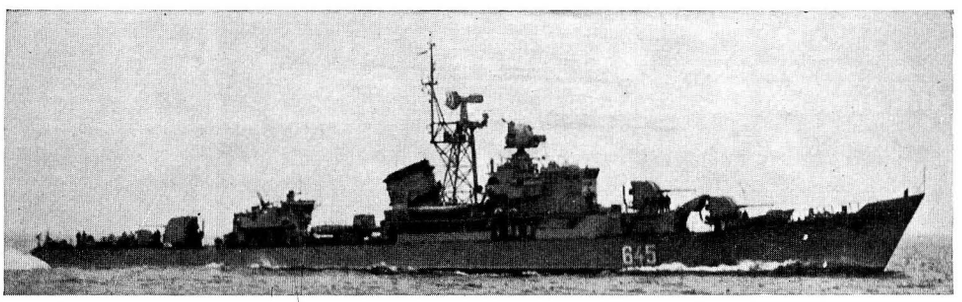
Successors to the " Kola " class frigates, of which they are lighter and less heavily armed but improved versions. A photograph of No. 645 appears in the 1956-57 to 1961-62 editions.

Appearance Notes

The class is divided into two types with different schemes of masting construction, see photographs.



No. 168. Later " Riga " Class 1962, *Nigel Peddie*



" Riga " Class 1956, *Sergei Romanov*

3 Improved " Birds " Class

ALBATROS	**CHAIKA**	**KRECHET**

Displacement: 920 tons *standard*, 1,300 tons *full load*
Dimensions: 278¾ × 27½ × 9¾ feet
Guns: 3—4 inch, 4—37 mm. AA., 8 M.G.
Tubes: 3—17·7 inch
Machinery: Geared turbines. 2 shafts. S.H.P.: 23,000=34 kts.
Boilers: 2
Complement: 92

Notes

Improved "Birds " class. Launched in 1940-49. All in the Black Sea. Names mean *Albatross*, *Seagull* and *Buzzard*.

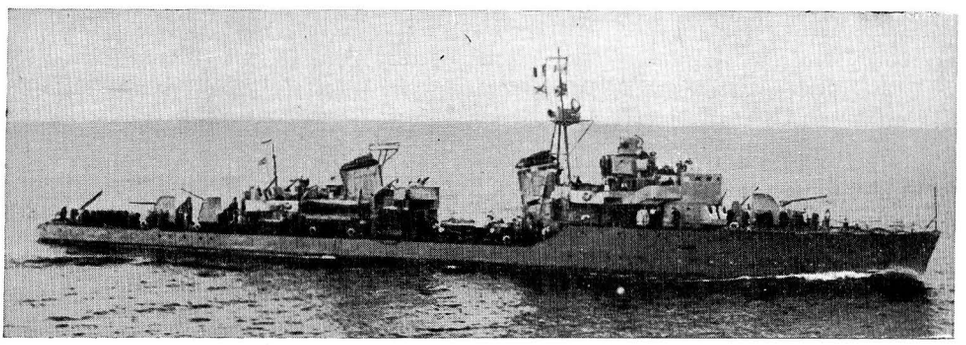
7 " Birds " Class

BERKUT	**KONDOR**	**OREL**
GRIF	**KORSHUN**	**VORON**
		YASTREB

Displacement: 842 tons *standard* (1,250 tons *full load*)
Dimensions: 275 × 27¼ × 9½ feet
Guns: 3—3·9 inch, 4—37 mm. AA.
Tubes: 3—17·7 inch
Machinery: Geared turbines. 2 shafts. S.H.P.: 23,000=35 kts.
Boilers: 2
Complement: 98

Notes

" Birds " class. All launched in 1939-41. In the Baltic. Names mean *Berkut:* Golden Eagle, *Grif:* Griffin, *Kondor*l Condor, *Korshun:* Kite, *Orel:* Eagle, *Voron:* Raven, *Yastreb:* Hawk. Only *Orel* and *Yastreb* were recently operational.



YASTREB 1948

2 Ansaldo Type

DZERZHINSKI (ex-*P.S.* 8) **KIROV** (ex-*P.S.* 26)

Displacement: 810 tons *standard* (1,200 tons *full load*)
Dimensions: 249½ (*pp.*), 262½ (*o.a.*) × 27¼ × 16¾ feet
Guns: 2—4 inch, 4—40 mm. AA., 2 M.G.
Mines: Can carry 40 to 50
Machinery: 3 Fiat and Tosi diesels respectively. 3 shafts. B.H.P.: 4,800=20 kts. (Trials: H.P.: 5,400=22 kts.)

Oil fuel: 44 tons
Complement: 120

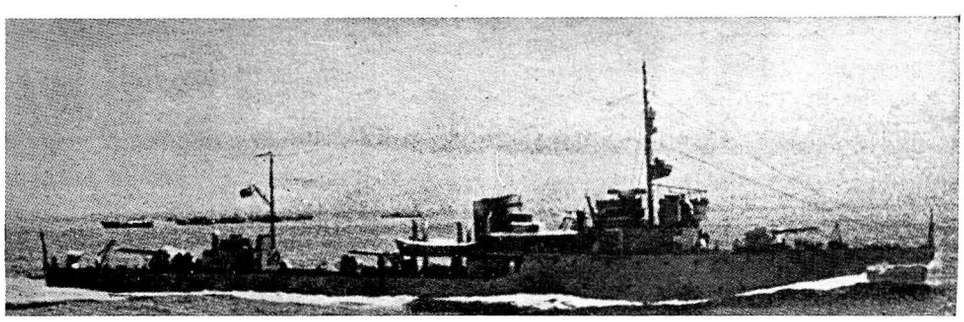
Notes

Built by Ansaldo, Italy. Launched on 19 Aug. 1934 and 18 Sep. 1934, respectively. Fitted for minelaying. Coastguard vessels. In the Far East.

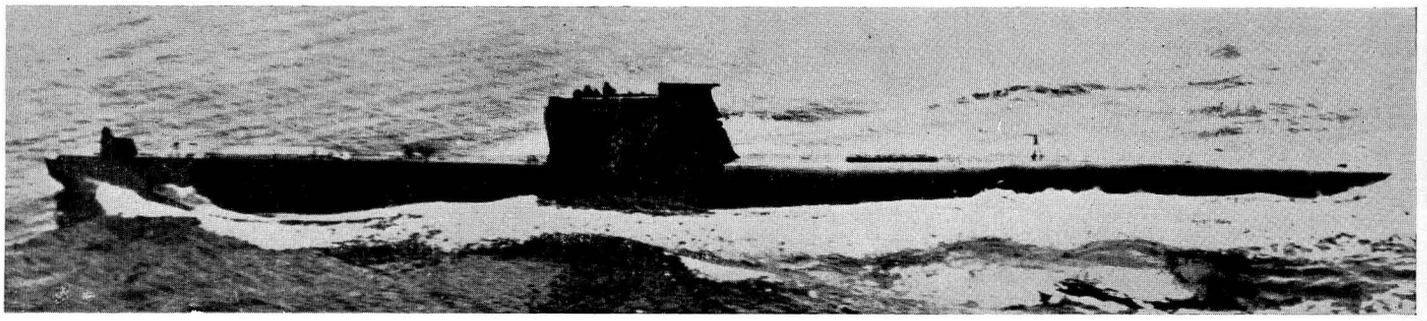
Recent Disposals

The three very old frigates (oceangoing torpedo boats) of the " *Markin* " class, *Altfater* (ex-*Turkmenets—Stavropolski*), *Bakinski-Rabotchi* (ex-*Voiskovoi*) and *Markin* (ex-*Ukraina*), and the very old frigate (oceangoing torpedo boat) *Konstruktor* (ex-*Sibirski*, *Stryelok*) of the " Kondratenko " type are worn out and are being discarded.

The 22 ex-Japanese frigates, the *Hatsuzakura* (ex-*Susuki*), *Kaya*, *Kiri* and *Shii* of the turbine escort destroyer type, the *Ikno* and *Kozu* of the diesel destroyer escort type, Nos. 34, 48, 52, 76, 78, 102, 142 and 196 of the turbine corvette type, Nos. 71, 77, 79, 105, 221 and 227 of the diesel corvette type, the *Shimushu* of the diesel destroyer escort " A " type, and the *Kiji* of the oceangoing torpedo boat or light destroyer type; the three ex-Italian frigates *Animoso* (ex-*Z* 16), *Ardimentoso* (ex-*Z* 19) and *Fortunale* (ex-*Z* 17) of the oceangoing torpedo boat or light destroyer type; and the six ex-German very old frigates *Podvizhnoi* (ex-*T* 12), *Poryvistyi* (ex-*T* 17), *Porazhayushchyi* (ex-*T* 107, ex-*G* 107), *Prozorlivyi* (ex-*T* 158, ex-*V* 158) and *Pronzitelnyi* (ex-*T* 196, ex-*G* 196) of the oceangoing torpedo boat or small destroyer type, and the *F* 7 of the escort vessel type, all taken over by the Russian Navy after the Second World War, are now worn out and are of very small or no military value; they are merely used as hulks or accommodation ships, harbour vessels, etc. Full details and photographs of these ships appear in the 1957-58 and earlier editions of " Fighting Ships."



SUBMARINES (*Podvodnye Lodki*)



"F" Class 1960

4 " E " Class
Nuclear Powered Guided Missile Type

Displacement:	3,000 tons
Dimensions:	300 × 32 × 25 feet
Guided Missiles:	6 launching tubes
Machinery:	Speed = 25 to 30 kts.

Notes

A new class of fast ocean ranging submarines of streamlined design, fitted with an estimated six guided missiles in launching tubes which elevate out of the flush deck, with launchers two abreast. Believed to be nuclear powered. Two reported to be operational and two completing.

8 " H " Class
Nuclear Powered Guided Missile Type

Displacement:	3,500 tons *surface*, 4,000 tons *submerged*
Dimensions:	328 × 33 × 25 feet
Torpedo Tubes:	6—21 inch (bow)
Machinery:	Nuclear reactors and steam turbines. 2 shafts. S.H.P.: 15,000 = 25 kts. *surface*, 30 kts. *submerged*

Notes

A new type of nuclear powered long range cruising submarines armed with ballistic missiles. Six reported to be operational and on station and two fitting out and storing for commissioning.

4 "N " Class
Nuclear Powered Anti-Submarine Type

Displacement:	*circa* 3,000 tons *standard*
Dimensions:	*approx.* 300 × 32 × 20 feet
Tubes:	6 bow for 21 inch torpedoes
Machinery:	Nuclear reactors and steam turbines. 2 shafts. S.H.P.: 15,000 = 25 kts. *surface*, 30 kts. *submerged*.

Notes

A new type of nuclear powered attack submarines designed as anti-submarine hunter-killers. Reported to be basically similar, in main particulars, to the " H " class above. All reported to be operational and on station.

13 " R " Class

No. 202	**No. 350 and others**
Displacement:	1,100 tons *surface*, 1,600 tons *submerged*
Dimensions:	246 × 24 × 14½ feet
Machinery:	Diesels. B.H.P.: 4,000 = 18·5 kts. *surface*. Electric Motors = 15 kts. *submerged*.

Notes

These new " R " class submarines are of a converted " W " type with modernised superstructure, conning tower, and sonar installation. Reported to number 13 units by autumn 1962.

22 " G " Class. Ballistic Missile Type

Displacement:	2,350 tons *surface*, 2,800 tons *submerged*
Dimensions:	320 × 28 × 22 feet
Guided Missiles:	3 vertical tubes for missiles of 350 miles range
Torpedo Tubes:	10—21 inch (6 bow, 4 stern)
Mines:	40
Machinery:	3 diesels. 3 shafts. Total H.P.: 6,000 = 17·6 (*max.*) kts. *surface*; Electric motors = 17 kts. *submerged*
Radius:	22,700 miles surface cruising endurance
Complement:	86 (12 officers, 74 men)

Notes

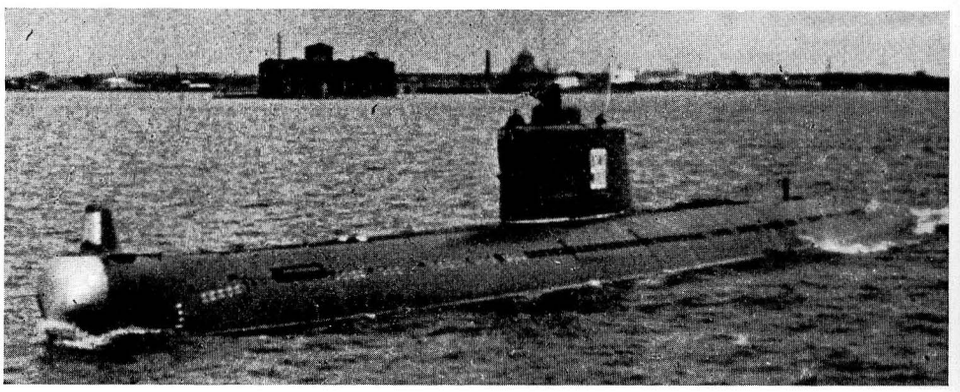
A new class of ballistic missile submarines having a very large conning tower fitted with three vertically mounted tubes and hatches for the launching of guided missiles. Conventional diesel propulsion. Built at Komsomolsk and Severodvinsk. Construction commenced in 1958 and estimates of boats completed vary between 18 and 24. It is reported that there are 16 operational units of this class, which includes four built in 1961, with six others fitting out.

21 " F " Class. Large Attack Type

Displacement:	1,960 tons *surface*, 2,280 tons *submerged*
Dimensions:	300 × 26 × 19 feet
Tubes:	8—21 inch (20 torpedoes carried)
Machinery:	Diesels. Electric motors. 3 screws. Speed = 20 kts. *surface* and *submerged*

Notes

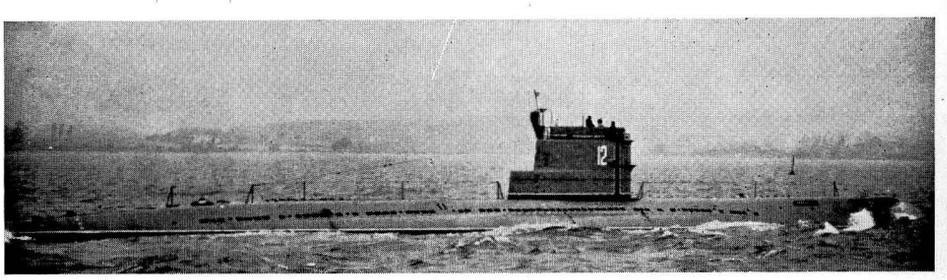
An improved " Z " class with greater length. Equipped with snort. It is reported that ten units of this class had been launched by Nov. 1959, and the last was launched in Dec. 1961 at the Sudomekh Yard in Leningrad.



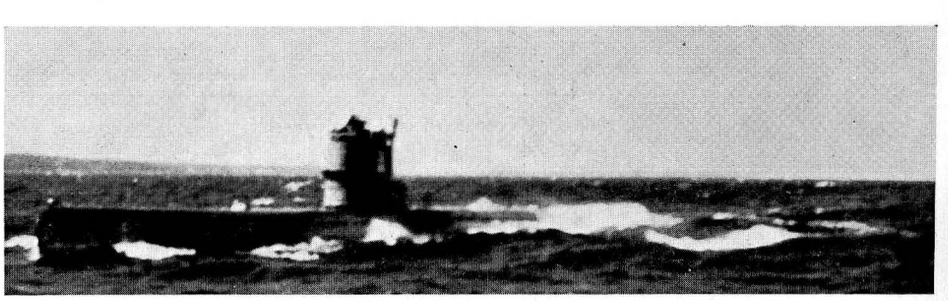
" Z " Class (port bow view see next page 1960



"R" Class No. 350 1961



W.12 (" W III " Class) 1959, *Sergei Romanov*



" W III " Class 1959, *Antonov Rogov*

General Notes

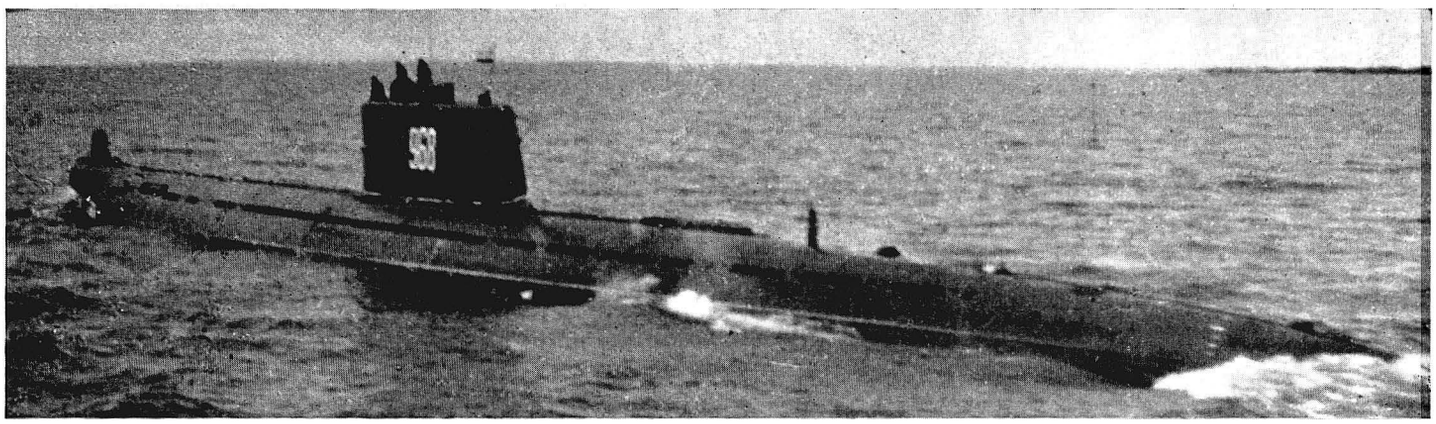
There are now about 465 effective submarines. Over half are of the large oceangoing type. More of a medium type are being built. Most are known by numbers; some by names as well.

It is reported that:—it is intended to build up a four-theatre submarine fleet for operations in the Pacific, in the Baltic, in the Arctic, and in the Black Sea; in future the Soviet Fleet will consist mainly of submarines; a new type of submarine has been completed; another type of nuclear powered submarine is on trials; a new class of submarine is equipped with ballistic missile tubes; a new class of radio-location submarine is under construction; some submarines are armed with far-ranging surface rockets with atomic and hydrogen warheads.

New Construction Notes

Some 50 submarines are under construction in Soviet dock yards. These are reported to include seven different types as follows:

1. Nuclear powered guided missile type with long range.
2. Nuclear powered anti-submarine type with high speed.
3. Large nuclear powered guided missile type with long range.
4. Large diesel powered attack type with high speed.
5. Large diesel powered ballistic missile type with long range.
6. Large diesel powered ocean type with high speed.
7. Anti-submarine diesel powered type with long range.



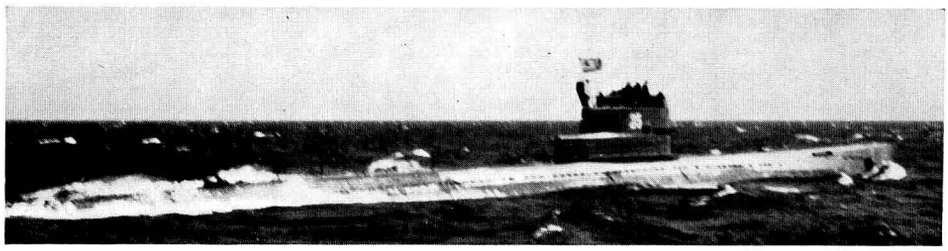
No. 958, " Z " Class (port quarter view) 1960

7 " Z " Class. Guided Missile Type

Displacement:	2,100 tons *surface*, 2,600 tons *submerged*
Dimensions:	295½ × 28⅞ × 17 feet
Guided Missiles:	2 launchers
Tubes:	8—21 inch
Machinery:	Diesels. B.H.P.: 10,000=22 kts. (*surface*) Electric motors. H.P.: 3,500=16 kts. (*submerged*)

Notes

These units are of " Z " class basic design but converted to ballistic missile submarines with larger conning towers and two vertical tubes for missile launching. Six boats were converted initially with a further conversion in 1961.



W.25 (" W III " Class) 1959, *Antonov Rogov*

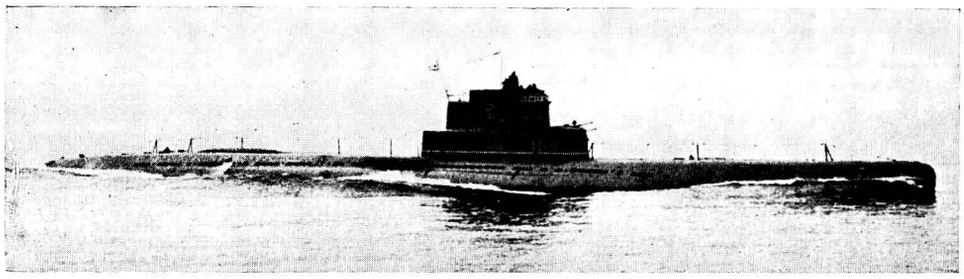
26 " Z " Class. Large Oceangoing Type

No. 63 No. 66 No. 71 No. 72 No. 958

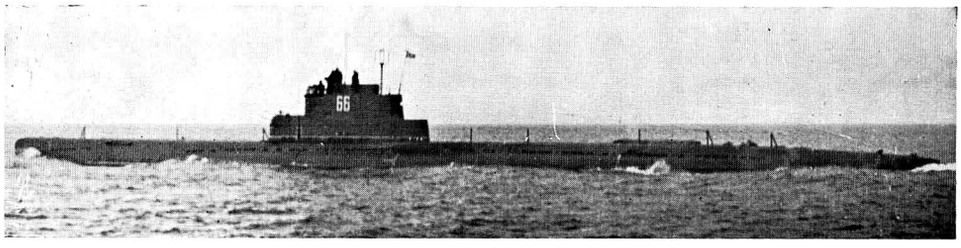
Displacement:	1,900 tons *surface*, 2,200 tons *submerged*
Dimensions:	290 (*o.a.*) × 26 × 19 (*max.*)
Guns:	2—57 mm. in twin turret before conning tower; twin 25 mm. AA. on conning tower (in some units no guns are apparent)
Tubes:	8—21 inch (6 forward, 2 aft). 24 torpedoes carried
Mines:	40 (40 mines or 20 torpedoes)
Machinery:	Diesel-electric. Three screws. S.H.P.: 5,500. Diesels: B.H.P.: 10,000 =20 kts. (*surface*) Electric motors: H.P.: 3,500=15 kts. (*submerged*)
Radius:	20,000 to 26,000 miles
Complement:	70

Notes

Large oceangoing type. Built from 1952 to 1957. General appearance is very streamlined with a complete row of rapid flooding holes along the casing. This class is stationed in the Baltic and Far East. The first of the class was laid down in 1951 and most were commissioned during 1952-58. All equipped with snort. 18 " Z " class submarines were constructed by Sudomekh Shipyard, Leningrad, in 1952-55 and others at Severodvinsk. Some "Z" class submarines are reported to be equipped with guided missiles. Others may be oilers. Mine capacity is alternative to torpedo capacity.



"W " Class



"W" Class 1956, *Sergel Romanov*

236 " W " Class. Seagoing Patrol Type

No. 12	**No. 66**	**No. 179**	**S 48**	**S 176**
No. 25	**No. 68**	**No. 224**	**S 77**	**S 221**
No. 28	**No. 78**	**No. 244**	**S 87**	**S 222**
No. 29	**No. 81**	**No. 261**	**S 91**	**S 237**
No. 34	**No. 125**	**No. 305**	**S 173**	**S 333**
		No. 752		

Displacement:	1,030 tons *surface*, 1,180 tons *submerged*
Dimensions:	240 (*o.a.*) × 22 × 15 (*max.*) feet
Guns:	Some have 1—3·9 inch in turret before conning tower; 1 light AA. Others 2—57 mm., 2—25 mm.
Tubes:	6—21 inch (4 forward, 2 aft). 14 torpedoes carried
Mines:	40 mines or 20 torpedoes
Machinery:	Diesel-electric. Twin screws. Diesels: B.H.P.: 4,000=17 kts. (*surface*) Electric motors: H.P.: 2,500=15 kts. (*submerged*)
Radius:	13,000 to 16,500 miles
Complement:	60

Notes

Medium size class of long range submarines built from 1950 to 1957 in yards throughout the Soviet Union. All streamlined. This group is subdivided into three types, the " W " class, the " WF " class, and the " W III " class. Stationed in considerable numbers in the Baltic, the North, the Black Sea and the Far East. Equipped with snort. Fitted for minelaying. Some carry one 3·9 inch deck gun.

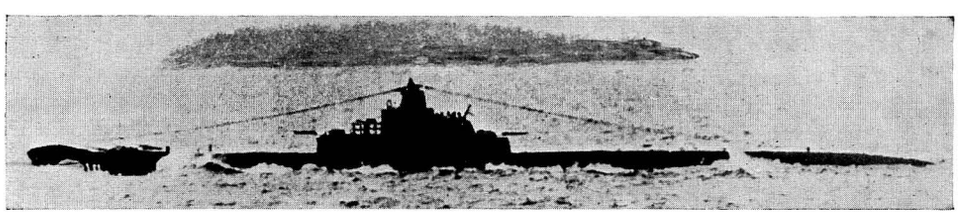
Guided Missile Notes

Some units of the "W" class are reported to be equipped with a special tank on deck for carrying guided missiles and with inclined missile launchers. Others have been modified to missile carrying submarines with single or twin cylinders on deck abaft the conning tower.

SEVERYANYA **SLAVYANKA**

Notes

Converted " W " class submarines fitted out for scientific research purposes.



" K " Class *Added 1955*

30 " Q " Class. Medium Range Type

No. 23	**No. 45**	**No. 51**	**No. 66**	**No. 72**
No. 37	**No. 47**	**No. 62**	**No. 68**	**No. 75**
				No. 98

Displacement:	650 tons *surface*, 740 tons *submerged*
Dimensions:	185 (*o.a.*) × 18 × 13 (*max.*) feet
Guns:	2—25 mm. in gunhouse forward of conning tower
Tubes:	4—21 inch
Machinery:	Diesel. 1 shaft. B.H.P.: 3,000=18 kts. (*surface*) Electric motors. H.P.: 2,500=16 kts. (*submerged*)
Oil fuel:	50 tons
Radius:	7,000 miles cruising range
Complement:	40

Notes

Medium range, single screw submarines. Built from 1954 to 1957. Improved versions of the " Shch " class see later page. Thirteen were constructed in 1955 by Sudomekh Shipyard, Leningrad.

13 " K " Class

K 1*	**K 51**	**K 55**	**K 58**	**K 77**
K 20	**K 52**	**K 56**	**K 60**	**K 78**
K 21	**K 53**	**K 57**		

Displacement:	1,457 tons *surface*; 2,062 tons *submerged*
Dimensions:	282 (*pp.*), 320 (*o.a.*) × 24 × 14 feet
Guns:	2—4 inch, 2—45 mm. AA.
Tubes:	12—21 inch, 6 bow, 4 stern, 2 under deck (20 torpedoes carried)
Machinery:	Diesels. B.H.P.: 8,400=18 kts. *surface*; electric motors, H.P.: 2,400 =10 kts. *submerged*
Oil fuel:	150 tons
Radius:	10,000 miles at 9 kts.
Complement:	62

Notes

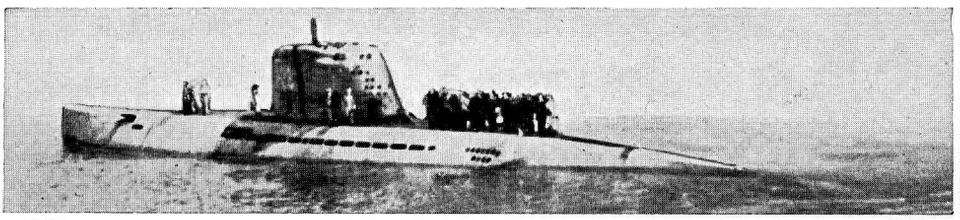
Launched during 1939-43. Fitted for minelaying. Designed to carry 32 mines. This class could operate at great distances and for long periods. Now becoming obsolescent.

Ex-German Types

4 Type XXI

N 27 (ex-*U* 2529)
N 28 (ex-*U* 3035)
N 29 (ex-*U* 3041)
N 30 (ex-*U* 3515)

Displacement:	1,280 tons (*designed*), 1,620 tons (*surface*), 2,100 tons (*submerged*)
Dimensions:	252⅜ × 21⅔ × 20½ feet
Guns:	4—37 mm. AA.
Tubes:	6—21 inch (23 torpedoes stowed)
Machinery:	M.A.N. diesels. B.H.P.: 4,000=15·5 kts. (*surface*) Electric motors. H.P.: 5,000=17·5 kts. (*submerged*)
Oil fuel:	250 tons
Radius:	11,000 miles at 12 kts.
Complement:	57



N 27 1948

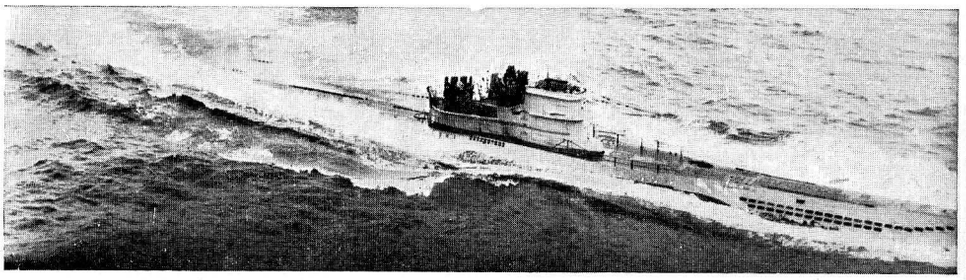
Notes
All launched in 1944-45. N 27 was built by Blohm & Voss, N 28 and N 29 by Deschimag, Bremen, N 30 by Schichau, Danzig. Equipped with snort. Long cruising range. High under-water speed. (Ex-*U* 3538, *U* 3539, *U* 3540, *U* 3541 and *U* 3542 were never completed.) No longer of much military value.

4 Type VII

S 81 (ex-*U* 1057)
S 82 (ex-*U* 1058)
S 83 (ex-*U* 1064)
S 84 (ex-*U* 1305)

Displacement:	595 tons (*designed*), 770 tons (*surface*), 1,070 tons (*submerged*)
Dimensions:	220 × 20 × 15½ feet
Guns:	1—37 mm. AA., 4—20 mm. AA.
Tubes:	5—21 inch (14 torpedoes stowed)
Machinery:	Diesels of varying types. B.H.P.: 2,800=17 kts. (*surface*) Electric motors. 2 shafts. H.P.: 750=7·6 kts. (*submerged*)
Oil fuel:	110 tons
Radius:	6,500 miles at 12 kts.
Complement:	45

Notes
Launched in 1942-43. First three were built by Germania, Kiel; and ex-U 1305 by Flensburger Schiffbaugesellshaft. Of little further fighting value.



S 83 1948

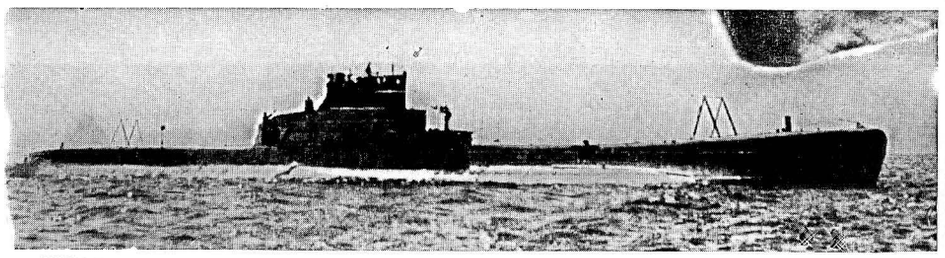
19 "Shch IV" Class

Sh 400	**Sh 404**	**Sh 411**	**Sh 425**	**Sh 429**
Sh 401	**Sh 407**	**Sh 412**	**Sh 426**	**Sh 430**
Sh 402	**Sh 408**	**Sh 419**	**Sh 427**	**Sh 431**
Sh 403	**Sh 410**	**Sh 422**	**Sh 428**	

Displacement:	620 tons (*surface*), 738 tons (*submerged*)
Dimensions:	190¼ × 19½ × 13 feet
Guns:	2—45 mm. AA., 2 M.G.
Tubes:	6—21 inch (10 torpedoes)
Machinery:	Diesels. B.H.P.: 1,600=15·5 kts. (*surface*) Electric motors. H.P.: 800=8·5 kts. (*submerged*)
Oil fuel:	60 tons
Radius:	4,000 miles at 8 kts.
Complement:	40

Notes
Medium range type. Launched during 1939-49. There are variations in design between the earlier and later units. *Shshuka*, name of the first boat built, means the pike, and as it began with the letter "Shch" it became the identification letter of the whole class, which are named after fishes.

The "Shch" class in the Baltic were of four different designs as follows: 'Shch" I: Nos. 301-304; "Shch" II: Nos. 305-310; 'Shch" III: No. 318; and "Shch" IV: Nos. 400 *et seq.*



SHCH Type 1942

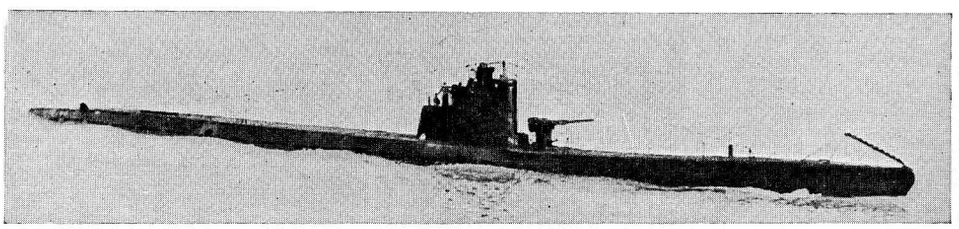
Recent Disposals
It was reported in 1960 that 50 boats of this class, *Sh.* 101 to 139, 141, 201, 203, 205, 207, 215, 305, 307, 309, 310 and 318, including most of the "Shch" I, II and III classes, having become obsolete and worn out, are scrapped.

30 "S (C)" Class

S 4	**S 17**	**S 23**	**S 36**	**S 101**
S 9	**S 18**	**S 24**	**S 37**	**S 102**
S 12	**S 19**	**S 25**	**S 38**	**S 103**
S 13	**S 20**	**S 26**	**S 54**	**S 104**
S 14	**S 21**	**S 31**	**S 55**	**S 137**
S 16	**S 22**	**S 35**	**S 56**	**S 139**

Displacement:	780 tons (*surface*), 1,050 tons (*submerged*)
Dimensions:	256 × 21 × 13 feet
Guns:	1—3 inch, 1—45 mm. AA.
Tubes:	6—21 inch
Machinery:	Diesels. B.H.P.: 4,200=20 kts. (*surface*) Electric motors. H.P.: 2,200=8·5 kts. (*submerged*)
Oil fuel:	105 tons
Radius:	9,800 miles at 9 kts.
Complement:	50

Notes
Launched in 1937-40. Boats of this class served in the Baltic, the Black Sea and the Far East. Now more or less obsolete. At least two "S" class submarines have been converted into floating power plants and can no longer be considered as submarines.



S Class 1955

Recent Disposals
S 50 was discarded in 1958, and S 15, S 51, S 52 and S 53 in 1959.

Recent Disposals of Other Classes
The 23 remaining very old submarines of the "L" class, the equally old ex-Estonian submarine *Lembit* of the Vickers type, and the three surviving old submarines of the "D" class, are worn out and discarded; if they retain any military value they can only be used for instructional purposes.

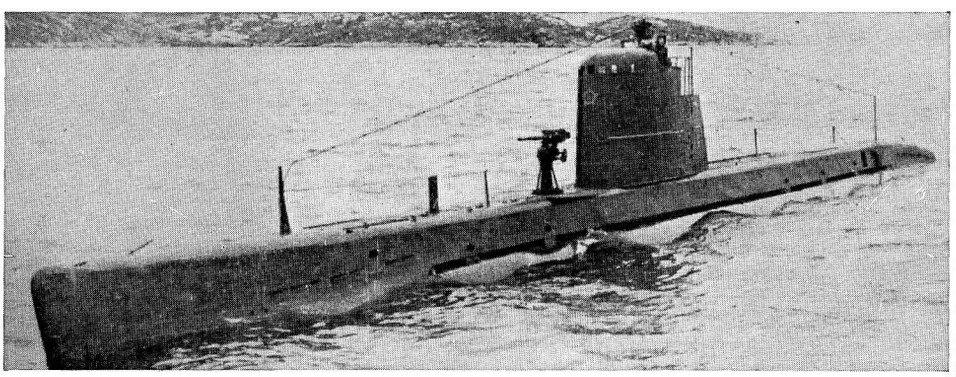
The old ex-German submarine *N* 25 (ex-*U* 1231) of the "1Xc" type, the two old ex-German submarines *U* 18 and *U* 24 of the "11b" type, the remaining old ex-German submarines of the "Seehund" type; and the old ex-Italian submarines *Nichelio*, *Z* 14, and *Marea*, *Z* 13, of the "Acciaio" and "Flutto" classes, respectively, all taken over by the Russians as war prizes, are now of doubtful value and will be scrapped or otherwise disposed of now that Russia has built so many submarines of her own design in her own yards.

35 "M V" Type

M 200	**M 256**	**M 263**	**M 270**	**M 277**
M 201	**M 257**	**M 264**	**M 271**	**M 278**
M 202	**M 258**	**M 265**	**M 272**	**M 279**
M 203	**M 259**	**M 266**	**M 273**	**M 280**
M 204	**M 260**	**M 267**	**M 274**	**M 281**
M 254	**M 261**	**M 268**	**M 275**	**M 282**
M 255	**M 262**	**M 269**	**M 276**	**M 283**

Displacement:	350 tons (*surface*) 420 tons (*submerged*)
Dimensions:	167⅓ × 16 × 12 feet
Guns	1—45 mm. AA., 1 M G.
Tubes:	2—21 inch
Machinery:	Diesels. B.H.P.: 1,000=13 kts. (*surface*) Electric motors H.P.: 800=10 kts. (*submerged*)
Oil fuel:	21 tons
Radius:	4,000 miles at 10 kts. (*surface*) 100 miles at 5 kts. *submerged*)
Complement:	24

Notes
Built from 1946 to 1952. Designed for coastal operations. Enlarged and improved editions of the original "M" type. Some were transported in sections on the Trans-Siberian Railway and assembled at Vladivostock for service in the Pacific. The older boats are of little further fighting value.



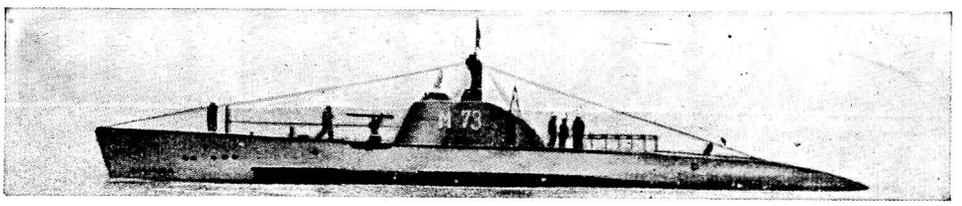
Recent Disposals
It was reported in 1962 that 28 boats of this class, *M* 205 206, 209, 211, 212, 214, 215, 216, 219, 234, 235 and 237 to 253, having become obsolete and worn out, are laid up for disposal and at least one has been scrapped.

Submarines—*continued*

18 "M IV" Type

M 102	M 106	M 120	M 123	M 172
M 103	M 111	M 121	M 124	M 174
M 104	M 112	M 122	M 171	M 175
M 105	M 119			M 176

Displacement:	205 tons (*surface*), 256 tons (*submerged*)
Dimensions:	147½ × 11 × 9 feet
Guns:	1—45 mm. AA.
Tubes:	2—21 inch
Machinery:	Diesels. B.H.P.: 800=13 kts. (*surface*) Electric motors. H.P.: 400=8 kts. (*submerged*)
Oil fuel:	18 tons
Radius:	3,400 miles at 8 kts. (*surface*) 90 miles at 3 kts. (*submerged*)
Complement:	20



General Notes

Launched in 1939-44. All built on a mass-production basis, notably at Gorki, and sent to their assembly ports in sections. Can be easily transported by rail but have a very limited radius of action. Majority in reserve. Some discarded. Remainder of no fighting value.

The "M" class in the Baltic were of five different designs as follows: "M I": Nos. 71 *et seq*; "M II": No. 77; "M III"; Nos. 79-96; "M IV": Nos. 102 *et seq.*; "M V": Nos. 200 *et seq.*

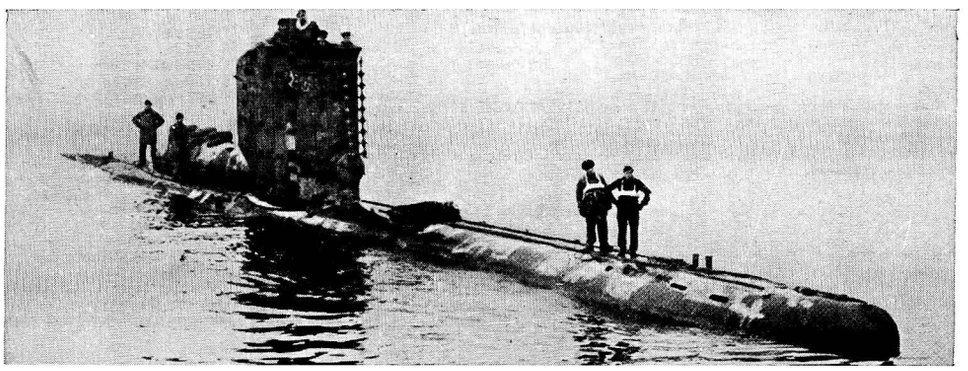
Recent Disposals

The "M I," "M II" and "M III" types, having become obsolete and worn out, are scrapped.

1 Type XXIII

N 31 (ex-*U* 2353)

Displacement:	233 tons (*surface*), 274 tons (*submerged*)
Dimensions:	114 × 11 × 12 feet
Tubes:	2—21 inch (only 2 torpedoes stowed)
Machinery:	1 diesel. B.H.P.: 575=9·75 kts. (*surface*) 1 electric motor. H.P.: 580=12·5 kts. (*submerged*)
Oil fuel:	18 tons
Radius:	1,350 miles at 9 kts.
Complement:	13



General Notes

N 31 was built by Deutshe Werft, Hamburg, and launched in 1944. Of little further fighting value. (The hulls of German submarines which fell into Russian hands in 1945 were never completed as the Russians completed so many of their own designs.)

FAST MINESWEEPERS

24 Modified "Polukhin" Class

IVAN SLADKOV **SERGEI SHUVALOV**
SEIMEN PALEIKOV **No 452** **and others**

Displacement:	700 tons *standard*, 910 tons *full load*
Dimensions:	259 × 26¼ × 9 feet
Guns:	2—3 inch AA., 4—37 mm. AA., 2—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 8,000=24 kts.
Oil fuel:	200 tons
Complement:	120

Notes

Launched in 1950-55. An improved class of fast ocean minesweepers similar to *Vladimir Polukhin* but they have 3 inch guns. Reported 12 at Vladivostock and 5 at Leningrad. No. 452 and others have the after funnel almost entirely enveloped by a bridge screen.

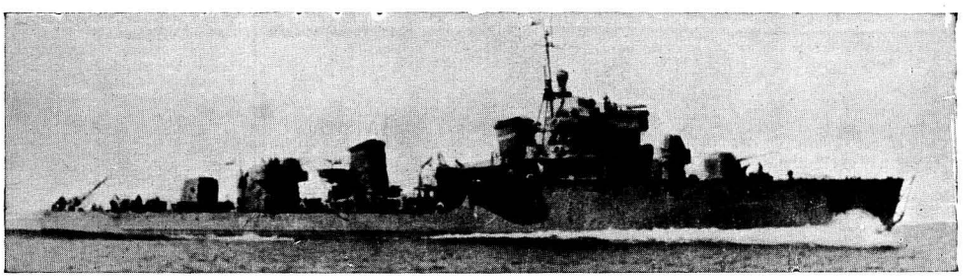
6 "Polukhin" Class

VASILI GROMOV **VLADIMIR POLUKHIN**

Displacement:	600 tons *standard* (800 tons *full load*)
Dimensions:	250 (*o.a.*) × 26 × 8¼ feet
Guns:	2—4 inch, 3—37 mm. AA., 2—20 mm. AA., 4—13 mm. M.G.
Machinery:	Diesel. 2 shafts. B.H.P.: 8,000=24 kts.
Oil fuel:	190 tons
Complement:	116

Notes

Launched in 1940-50. Designed as fast minesweepers for fleet duties, but are more like destroyers in silhouette.



VASILI GROMOV *Added* 1950

FAST ESCORTS

13 "Shtorm" Group

3 "Improved Shtorm" Class

MOLNIYA **SERP** **ZARNITSA**

Displacement:	500 tons *standard* (670 tons *full load*)
Dimensions:	236½ × 24⅔ × 9⅔ feet
Guns:	2—3·9 inch, 4—37 mm. AA., 2 M.G.
Tubes:	3—17·7 inch
Mines:	50
Machinery:	Geared turbines. 2 shafts. S.H.P.: 6,500=25·5 kts.
Boilers:	2
Oil fuel:	120 tons
Complement:	100

Notes

All launched in 1937-39. The design is an improvement on that of the *Shtorm* class. All in the Far East.

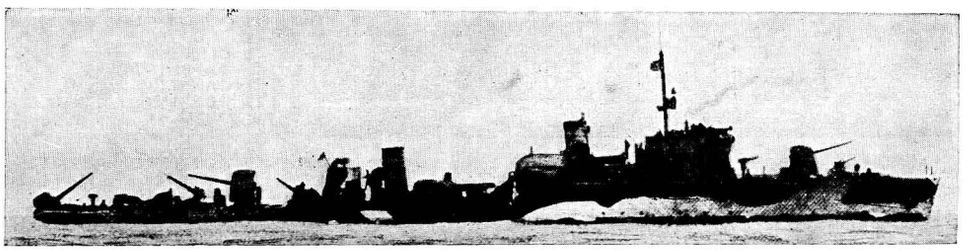
4 "Burun" Class

BURUN **GROM** **METEL** **VYUGA**

Displacement:	490 tons *standard* (635 tons *full load*
Dimensions:	236½ × 24⅔ × 9½ feet
Guns:	2—3·9 inch, 4—37 mm. AA., 2 M.G.
Tubes:	3—17·7 inch
Mines:	50
Machinery:	Geared turbines. 2 shafts. S.H.P.: 6,500=25 kts.
Boilers:	2
Oil fuel:	120 tons
Complement:	88

Notes

All launched in 1934-1936. Stationed in the Far East.



TUTCHA *Added* 1948

3 "Groza" Class

GROZA **SMERCH** **URAGAN**

Displacement:	530 tons
Dimensions:	236½ × 24⅔ × 9½ feet
Guns:	2—3·9 inch, 4—37 mm. AA.
Tubes:	3—17·7 inch
Mines:	15
Machinery:	Geared turbines. 2 shafts. S.H.P.: 6,200=25 kts.
Boilers:	2
Oil fuel:	120 tons
Complement:	100

Notes

All launched in 1934-1936. Stationed in the White Sea. Now old and of little further fighting value.

General Notes for the Group

Reported fore and aft gun turrets removed replaced with AA. guns. Mainmast removed. Officially rated as escort vessels or *storozhevye korabli* (guardships). *Shtorm* and *Shkval* (Group I) stationed in Black Sea, *Burun*, *Grom*, *Metel*, *Vyuga* (Group IV) in Far East, *Groza*, *Smerch*, *Uragan* (Group III) in White Sea, *Taifun*, *Tutcha*, *Vikhr* (Group II) in Baltic. War losses: *Burya*, *Purga*, *Tsiklon*, *Sneg*.

3 "Taifun" Class

TAIFUN **TUTCHA** **VIKHR**

Displacement:	487 tons *standard* (620 tons *full load*)
Dimensions:	233 (*pp.*) × 24 × 8¼ feet
Guns:	2—3·9 inch, 4—45 mm. AA., 4 M.G.
Tubes:	3—17·7 inch (tripled)
A/S weapons:	2 D.C.T.
Mines:	50
Machinery:	Geared turbines. 2 shafts. S.H.P.: 6,440=25 kts.
Boilers:	2, of 3-drum type
Oil fuel:	115 tons
Complement:	72 to 101

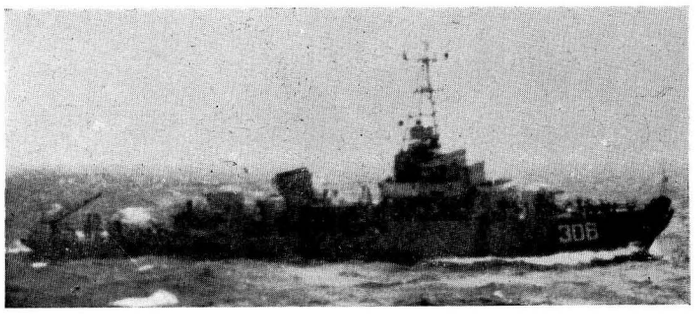
Notes

All launched in 1932-1934. Stationed in the Baltic. Now very old and of no further fighting value.

Recent Disposals

It was reported in 1960 that the two boats of the "Shkval" class, *Shkval* and *Shtorm*, are obsolete and worn out and are being discarded. It was also reported that the three boats of the "Taifun" class, *Taifun*, *Tutcha* and *Vikhr*, and the three boats of the "Groza" class, *Groza*, *Smerch* and *Uragan*, are of no further military value on account of their age.

FLEET MINESWEEPERS

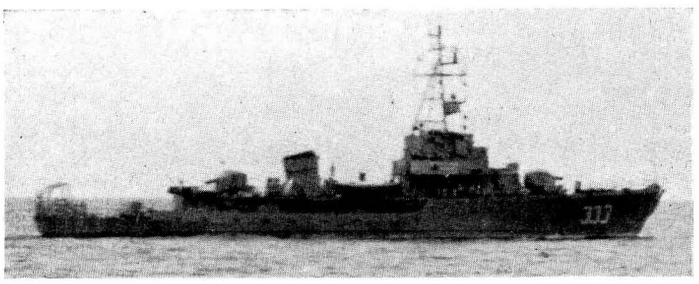


No. 306 1962

32 " T 58 " Class

Displacement: 500 tons *standard* (600 tons *full load*)
Dimensions: 220 × 27½ × 9 feet
Guns: 4—45 mm. AA.
Machinery: Speed = 18 kts.

Notes
A new class of fleet minesweepers built from 1959 onwards. Successors to the " T 43 " Class. It is reported that the " T 58 " and " T 43 " classes together numbered 210 ships.
Conversion Notes
Three of this class have been converted to submarine rescue ships with armament and sweep gear removed.



No. 333 1962, *Nigel Peddie*

149 " T 43 " Class

T 43	**T 65**	**T 76**	**T 92**	**T 115**	**T 533**	**T 801**
T 54	**T 66**	**T 80**	**T 95**	**T 129**	**T 648**	**T 802**
T 60	**T 74**	**T 91**	**T 96**	**T 157**	**T 692**	**T 864**
						and others

Displacement: 410 tons *standard* (530 tons *full load*)
Dimensions: 200 × 27½ × 9 feet
Guns: 4—37 mm. AA., 8—13 mm. AA. M.G.
Machinery: Diesel motors. 2 shafts. Speed = 17 kts.

General Notes
A handy type of moderately fast fleet minesweepers built in 1948-57 in shipyards throughout the Soviet Union. Of this class of 175 units, ten were transferred to Poland, eight to Albania, six to Egypt, and two to Syria.



ADMIRABLE Type *Official*

9 Ex-U.S. " Admirable " Type

Ex-**DISDAIN** AM 222 Ex-**MEASURE** AM 263 Ex-**NUCLEUS** AM 268
Ex-**FANCY** AM 234 Ex-**METHOD** AM 264 Ex-**PENETRATE** AM 271
Ex-**MARVEL** AM 262 Ex-**MIRTH** AM 265 Ex-**RAMPART** AM 282

Displacement: 650 tons *standard* (945 tons *full load*)
Dimensions: 180 (*w.l.*), 184½ (*o.a.*) × 33 × 10 (*max.*) feet
Guns: 1—3 inch D.P., 2—40 mm. AA., 6—20 mm. AA.
Machinery: Diesel. 2 shafts. B.H.P.: 1,900 = 16 kts.
Complement: 100

Notes
All launched in 1942. Acquired in 1943. Of the 34 steel hulled fleet minesweepers of the "Admirable" class transferred from the U.S.A. to the U.S.S.R. during the Second World War under the lend-lease programme, 21 were destroyed, 4 lost and 9 purchased outright by the U.S.S.R. Four were converted to surveying vessels named *Gidrofon*, *Gidromtr*, *Gidroscop* and *Gorizont*, see later page.

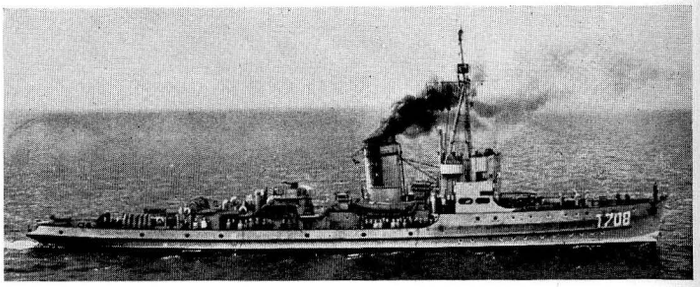
2 Ex-German Type 3

Ex-**M 807** Ex-M **808**

Displacement: 605 tons *standard* (813 tons *full load*)
Dimensions: 223 × 29½ × 8½ feet
Guns: 6—37 mm. AA. (see *Notes*)
Machinery: Triple expansion with exhaust turbines. 2 shafts. I.H.P.: 2,400 = 16·5 kts.
Boilers: 2 water tube three-drum type
Coal: 136 tons
Radius: 3,600 miles at 11 kts.
Complement: 95

Notes
Former German minesweepers of the " M 43 " type. Built by Neptun, Rostocki. Launched in 1944-45. Also armed with two depth charge throwers and 30 mines.

Fleet Minesweepers—*continued*



T 708 *Added* 1961

29 Ex-German Type 2

T 701 (ex-*M* 265)	**T 708** (ex-*M* 342)	**T 715** (ex-*M* 406)	**T 722** (ex-*M* 443)
T 702 (ex-*M* 267)	**T 709** (ex-*M* 343)	**T 716** (ex-*M* 407)	**T 723** (ex-*M* 446)
T 703 (ex-*M* 279)	**T 710** (ex-*M* 369)	**T 717** (ex-*M* 411)	**T 724** (ex-*M* 456)
T 704 (ex-*M* 291)	**T 711** (ex-*M* 377)	**T 718** (ex-*M* 415)	**T 725** (ex-*M* 461)
T 705 (ex-*M* 324)	**T 712** (ex-*M* 386)	**T 719** (ex-*M* 423)	**T 726** (ex-*M* 467)
T 706 (ex-*M* 330)	**T 713** (ex-*M* 401)	**T 720** (ex-*M* 425)	**T 727** (ex-*M* 471)
T 707 (ex-*M* 341)	**T 714** (ex-*M* 405)	**T 721** (ex-*M* 431)	**T 728** (ex-*M* 484)
			T 729 (ex-*M* 496)

Displacement: 551 tons *standard* (748 tons *full load*)
Dimensions: 202 × 28 × 9 feet
Guns: 6—37 mm. AA.
Machinery: Reciprocating, with exhaust turbine. 2 shafts. I.H.P.: 2,150 = 16·7 kts.
Boilers: 2 modified Schulz
Coal: 142 tons
Radius: 4,000 miles at 10 kts.
Complement: 80

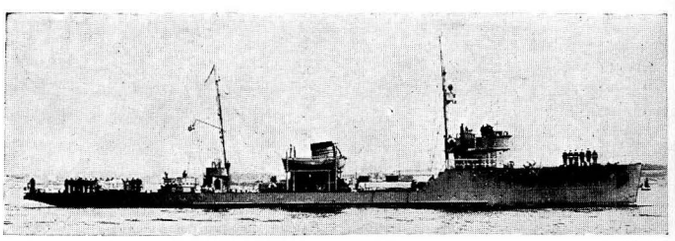
Notes
Former German minesweeper of the " M 40 " type. All launched in 1941-44. The majority are in the Baltic. One mast. No. 402 and others have been converted into unarmed surveying vessels, with G numbers. Another photograph appears in the 1957-58 edition.

14 Ex-German Type 1

T 911 (ex-*M* 3)	**T 915** (ex-*M* 30)	**T 919** (ex-*M* 155)	**T 922** (ex-*M* 254)
T 912 (ex-*M* 7)	**T 916** (ex-*M* 34)	**T 920** (ex-*M* 203)	**T 923** (ex-*M* 255)
T 913 (ex-*M* 17)	**T 917** (ex-*M* 151)	**T 921** (ex-*M* 204)	**T 924** (ex-*M* 256)
T 914 (ex-*M* 29)	**T 918** (ex-*M* 154)		

Displacement: 717 tons *standard* (900 tons *full load*)
Dimensions: 229½ × 28¾ × 9 feet
Guns: 2—4·1 inch, 1—37 mm. AA., 8—20 mm. AA.
Machinery: Bersig reciprocating. 2 shafts. I.H.P.: 3,500 = 18·3 kts.
Boilers: 2 Wagner
Fuel: 143 tons
Radius: 5,000 miles at 10 kts.
Complement: 100

Notes
Former German minesweepers of the "M 40" type. All launched in 1941-44. The are reported to be in the Black Sea. Some are surveying vessels, without armament. Photograph of T 915 in the 1958-59 and earlier editions.
Recent Disposals
The two very old ex-German minesweepers *Pirmunas* (ex-*Smetona*, ex-*M* 59) and ex-*Virsaitis* (ex-*M* 68) previously owned by Lithuania and Latvia, respectively; the two very old ex-Finnish minesweepers *Pioner* (ex-*Korshun*) and *Minyor* (ex-*Yastreb*, ex-*SS Bore*); and the four old ex-Japanese minelayers Nos. 12, 17, 20 and 23, are worn out and are now of little or no military value.



PODSEKATEL 1948

32 " Tral " Class

CHEKA	FE	**MINA**	BS	**SHCHIT**	BS
GAFEL (T 205)	B	**MINREP**	BS	**STRELA**	FE
GAK (T 210)	B	**PARAVAN**	FE	**TRAL**	BS
GARPUN	BS	**PATRON**		**TROSS**	FE
GRUZ	BS	**PLAMYA**		**UDARNIK**	
ISKATEL	BS	**PODSEKATEL**	FE	**VEKHA**	FE
KAPSUL	FE	**PROVODNIK**	FE	**VERP**	
KONTRADMIRAL KHOROSHKHIN (T 219)	B	**RUBIN**		**VZRYV**	BS
		RYM (T 211)	B	**YAKORJ**	BS
KARAMBOL		**SHKIV**		**ZAPAL**	
MATROS		**SHPILL** (T 207)	B	**ZARYAD**	

Displacement: 441 tons *standard* (550 tons *full load*)
Dimensions: 187 (*pp.*), 203 (*o.a.*) × 23½ × 7¾ feet
Guns: 1—4 inch, 2—37 mm. AA.
Mines: 40
Machinery: Diesel. 2 shafts. B.H.P.: 2,800 = 18 kts.
Oil fuel: 96 tons
Complement: 55

Notes
Fitted for minelaying and minesweeping, *Cheka*, *Kapsul*, *Paravan*, *Podsekatel*, *Provodnik*, *Strela*, *Tross* and *Vekha* are in the Far East. T 205, 207, 210, 211, 215, 217, 218, 219 are in the Baltic, others in the Black Sea. Built in two series 1935-1936, 1941-1944. Reported to be good sea boats, very handy and effective in minesweeping. " *Yakorj* " means " Anchor ". Some of this class are employed as Coast Guard vessels. *Fugas* (201), 202, 203, 204, 206, 208, 209, 212, 213, 217 and *Vzryvatel* were Second World War losses.

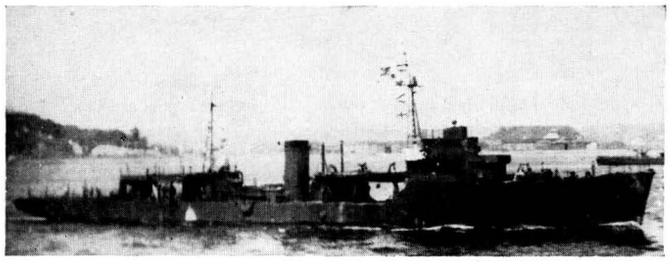
20 Ex-" PSK " Type

T 401-420 (ex-*P.S.K.* 1-20)

Displacement: 440 tons *standard* (540 tons *full load*)
Dimensions: 187 (*pp.*), 203½ (*o.a.*) × 23¾ × 8 feet
Guns: 1—3·9 inch, 2—37 mm. AA.
Machinery: Diesels. 2 shafts. B.H.P.: 2,800 = 18 kts.
Oil fuel: 95 tons
Radius: 4,100 miles at 14 kts.
Complement: 60

Notes
P.S.K. (*Pogranichnye*) *Storozhevye Korabli*—(frontier patrol vessel) were built as coast-guard vessels. Taken over by the Navy in 1940 and fitted for minesweeping and to carry 24 mines. Differ slightly from " Tral " class boats. All in the White Sea. They have a round stern as opposed to the square stern of the " Tral " type.

MINELAYERS



KAMISHIMA — *Added* 1953, *Hajime Fukaya*

General Notes
The Russian Navy is capable of a considerable mine-laying effort. In addition to the specialised minelayers, most cruisers and destroyers, some submarines and other craft are fitted for minelaying which has always been a highly specialised branch of the Russian Navy.

Ex-KAMISHIMA

Displacement:	766 tons *standard* (800 tons *full load*)
Dimensions:	228 (*pp*), 240½ (*w.l.*), 244½ (*o.a.*) × 25¾ × 8½ feet
Guns:	2—40 mm. AA., 13—25 mm. AA., 36 D.C. (original)
Mines:	120
Machinery:	2 diesels. B.H.P.: 1,900=16·5 kts.

Notes
Former Japanese light minelayer. Built at Sasebo. Laid down on 20 Feb. 1945. Launched on 12 June 1945. Completed on 30 July 1945. To meet the urgent requirement to lay mines along the Japanese coast this type was built very hurriedly, being designed with a simple hull without camber or sheer, except at the bow, and a hexagonal section funnel.

MURMAN

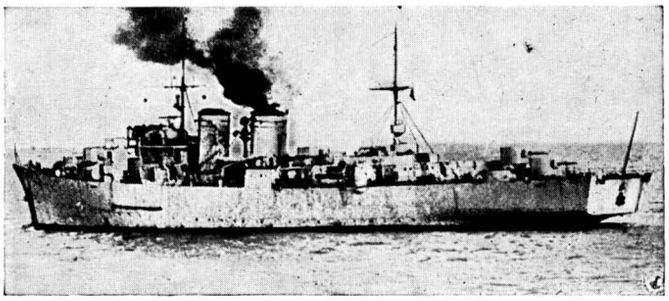
Displacement:	3,000 tons
Dimensions:	266 × 42¾ × 15¾ feet
Guns:	3—5·1 inch, 4—3 inch
Mines:	150
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,400=14 kts.

Notes
Launched in 1937. In the White Sea. Now used as a surveying ship.

URAL (ex-*Felix Dzerzhinski*)

Displacement:	2,800 tons
Dimensions:	331½ × 48 × 25½ feet
Guns:	4—3·9 inch, 2—37 mm. AA., 4 M.G.
Machinery:	Speed: 12 kts.

Notes
Launched in 1929. Now used as a training ship.
The former minelayer *Okhotsk* is now employed as a surveying vessel, see particulars and photograph on page 423.



ELIZABETA — *Added* 1948

ELIZABETA (ex-*Marty*, ex-*Shtandart*)

Displacement:	5,980 tons *standard* (6,900 tons *full load*)
Dimensions:	370¾ (*w.l.*), 400 (*o.a.*) × 50½ × 20 (*mean*), 22 (*max.* feet
Guns:	4—5·1 inch, 55 cal., 7—3 inch, 3—45 mm. AA., 3 M.G.
Mines:	500
Armour:	2″ deck
Machinery:	Geared turbines. 2 shafts. S.H.P.: 11,500=20 kts.
Boilers:	4 Yarrow
Oil fuel:	930 tons
Complement:	400

Notes
This ship is the former Imperial yacht, laid down at Copenhagen in 1893, launched on 4 Aug, 1896, and re-engined and rebuilt as a minelayer at Leningrad in 1935-7. She was refitted at Rostock yard in the Russian occupation zone of Germany in the winter of 1948-49. Now used as a training ship. Reported to be at Kronstadt in Oct. 1959 and to have been renamed *Elizabeta*.

VOROSHILOVSK

Displacement:	2,300 tons
Dimensions:	302 × 40 × 16½ feet
Guns:	4—3 inch, 2 M.G.
Mines:	400
Machinery:	Triple expansion. I.H.P.: 750=9 kts.
Coal:	630 tons
Complement:	160

Recent Disposals
The old auxiliary minelayer *Argun* is no longer on the Navy List, having been returned to the Merchant Navy.
The very old ex-Japanese coastal minelayer *Katashima* is worn out and of little or no military value.

MINING TENDERS

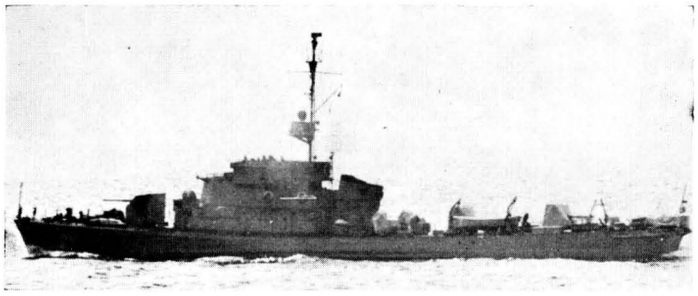
12 Training Type

MU 41	MU 43	MU 45	MU 48	MU 51	MU 53
MU 42	MU 44	MU 46	MU 50	MU 52	MU 54

Displacement:	150 tons *standard* (180 tons *full load*)
Guns:	1—45 mm. AA.
Machinery:	Diesel. Speed: 12 kts.

Notes
Launched in 1936-40. All are attached to the Mining School as Tenders for training.

PATROL VESSELS



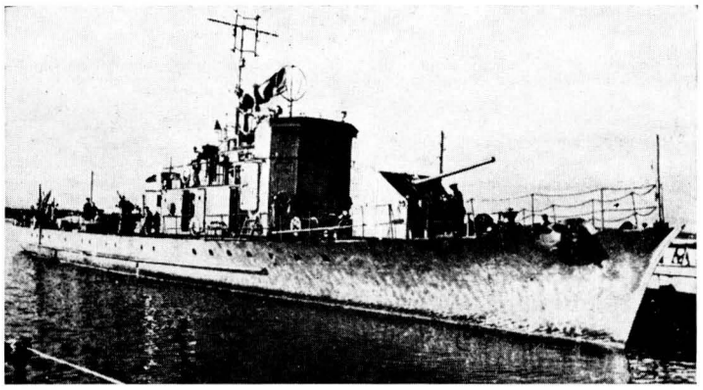
No. 497 — 1955

230 " Kronstadt " Class

No 265	No 357	No 361	No 541
No 356	No 360	No 497	and others

Displacement:	300 tons *standard* (350 tons *full load*)
Dimensions:	167½ × 19½ × 9 feet
Guns:	1—3·9 inch, 2—37 mm. AA., 3—20 mm. AA.
A/S weapons:	Depth bomb projectors
Mines:	Fitted for laying
Machinery:	Diesels. 2 shafts:=27 kts.
Oil fuel:	20 tons
Complement:	40

Notes
Built in 1948-56. Flush decked, large squat funnel, slightly raked, massive block bridge structure. An improved version of the " Artillerist " class. There appear to be two distinct types of this numerically large class of modern coastal escort vessels (reported to run into about 230 units). The latest type has a particularly effective anti-submarine armament. The earlier type carries mines.



ARTILLERIST

11 " Artillerist " Class

ARTILLERIST	MASHINIST	SHTURMAN
ELEKTRIK	MEKHANIK	TRYUMNYI
KIROVETS	MOTORIST	TURBINIST
LYOTCHIK	PILOT	

Displacement:	240 tons *standard* (280 tons *full load*)
Dimensions:	160¾ × 19 × 8½ feet
Guns:	1—3 inch, 2—37 mm. AA., 3 M.G.
A/S weapons:	2 Depth charge throwers
Machinery:	Diesel. 2 shafts. B.H.P.: 3,300=25 kts.
Oil fuel:	18 tons
Complement:	36

Notes
Rated as submarine chasers. The design of these handy coastal escort vessels was apparently a Soviet version of that of the United States submarine chasers of the PC type. The latest estimate of the number of units of this class extant is no more than twenty.

3 " Rubin " Class

BRILLIANT	RUBIN	SAPFIR

Displacement:	440 tons *standard* (550 tons *full load*)
Dimensions:	203 × 23 × 9 feet
Guns:	1—4 inch, 2—37 mm., 2—13 mm. M.G., D.C.
Machinery:	Diesels. 2 shafts. B.H.P.: 2,300=17 kts.
Oil fuel:	85 tons
Complement:	58

Notes
Rated as gunboats. Similar to the " Tral " type of fleet minesweepers, but for patrol duties.

General Notes
The following numbers of patrol boats have been reported:
Destroyer Escorts/Guardships (SKR): 177, 233, 360, 445, 480, 615, 765, 770, 920.
Large submarine chasers: MPK 11, 23, 39, 400, 435, 474, 477.
Large submarine chasers: BO 103, 155, 195, 269, 316, 320, 345, 519, 618, 620, 787, 835.
Coast Guard/Border Guard submarine chasers: 328, 438, 442, 443, 444, 445, 536, 537, 569, 814, 815, 817 and others.
Coast Guard/Border Guard patrol craft: 505, 623, 635, 636, 750, 751, 752, 753.

Recent Disposals
The old patrol boat *Luga* (ex-Estonian *Pikker*), and the very old patrol boat *Ametist* (ex-Estonian *Sulev*, ex-German A 32) are worn out and have little or no further military value.

Disposals of Auxiliary Mine Craft
The old ex-British minesweeper whaler *Shika*, the four old Dutch wooden minesweeping boats *RA 102*, *RA 103*, *RA 104* and *RA 105*, and the five old coastal minesweepers of the " N " type are worn out and of no further military value.

GUIDED MISSILE BOATS

56 " Osa " Class

Displacement: 160 tons
Dimensions: 122×21×6 feet
Guided Missiles: 4 large hood type launchers in two pairs abreast
Guns: 1 forward
Machinery: 3 diesel engines. Speed=40 kts.

Notes
These later guided missile boats of new construction, built in 1961-62, have a larger hull and four launchers in two pairs as compared with one pair in the " P 6 " conversions. Of the motor gunboat type, they are reported to be fitted with a gun forward and four surface-to-surface missile launchers, two on each side, with a missile range of about 15 miles.

54 " Komar " Class

Displacement: 100 tons
Guided Missiles: 2 in twin housing
Machinery: Speed=40 kts.

Notes
A new type of guided missile boats at least 54 units of which have been converted from " P 6 " class motor torpedo boats. Four units of the " P 6 " MTB type are fitted with two guided missile launchers aft in a hooded casing approximately 45 degrees to the deck line. Built in 1960-61.

COASTAL MINESWEEPERS

" Vanya " Class

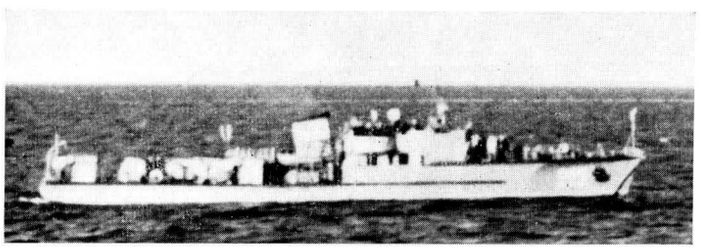
Notes
A new class of coastal minesweepers of recent construction with wooden hulls reported to be in current production.

Steel Type

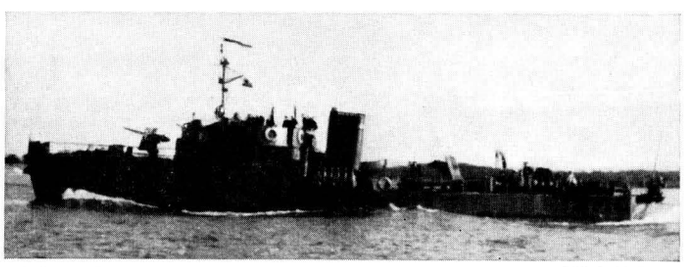
Notes
Like the above, these are reported to be basically similar to the British coastal minesweepers of the " Ton " class, but constructed of steel.

Inshore Type

Notes
Reported to be much the same as the " Ham " class inshore minesweepers in the Royal Navy, but of steel construction.



No. 223. " T 460 " Series 1962



T 371 Series *Added*, 1958

225 " T 301 " Class

T 371 Series **T 460 Series**

Displacement: 130 tons
Dimensions: 100×16×4½ feet
Guns: 2—20 mm. AA., 4 M.G.
Machinery: Diesel. B.H.P.: 480=10 kts.
Complement: 30

Notes
Built from 1946-1956. T 341, 356, 376, 442, 459, 460 and others. Several units of this class are reported to have been converted to surveying vessels.
There are two different types of the " T 301 " class, the " T 371 " group, and the " T 460 " group with raking funnel cap (see top photograph).

12 Ex-British 126 ft. Type

Ex-**MMS 1005** Ex-**CEDAR LAKE** Ex-**PINE LAKE**
Ex-**MMS 1023** Ex-**ELM LAKE** Ex-**POPULAR LAKE**
Ex-**ALDER LAKE** Ex-**HICKORY LAKE** Ex-**SPRUCE LAKE**
Ex-**BEECH LAKE** Ex-**LARCH LAKE** Ex-**WILLOW LAKE**

Displacement: 254 tons *standard* (360 tons *full load*)
Dimensions: 126 (*pp.*), 140 (*o.a.*)×26×10½ (*mean*), 12½ (*max.*) feet
Guns: 2—40 mm. AA., 2—20 mm. AA.
Machinery: Diesel. B.H.P.: 500=10 kts.
Oil fuel: 55 tons
Complement: 21

Notes
Launched in 1944-45. Built in Canadian shipyards on " Mutual Aid " account, and delivered in 1945-46. Ex-MMS 1005 and 1023 were acquired from Great Britain.

3 Ex-British 105 ft. Type

Ex-**MMS 90** Ex-**MMS 203** Ex-**MMS 212**

Displacement: 163 tons *standard* (255 tons *full load*)
Dimensions: 105 (*pp.*), 119 (*o.a.*)×23×9½ feet
Guns: 2—20 mm. AA., 2 M.G.
Machinery: Diesel. B.H.P.: 500=10 kts.
Oil fuel: 22 tons
Complement: 20

Notes
Motor minesweepers of wooden construction, acquired from Great Britain.

PATROL BOATS

Mb 4 Type

Displacement: 61 tons
Dimensions: 85½×13½×5 feet
Guns: 2—37 mm. AA.
Machinery: Speed=24 kts.

Notes
Medium patrol boats of recent construction. Designed for coastal anti-submarine duties.

Mb 5 Type

Displacement 145 tons
Dimensions: 130×21×5 feet
Guns: 3—37 mm. AA.
Machinery: Speed=21 kts.

Notes
Large patrol boats, reconstructed ex-German " R " boats, a number of which have been reported.

50 Ex-German Type

Ex-R 302 R 303 R 305 R 307 R 308 R 310 R 311 R 312

Displacement: 177 tons
Dimensions: 134½×19⅜×6 feet
Guns: 1—37 mm. AA., 3—20 mm. AA.
Machinery: Burmeister & Wain diesel. B.H.P.: 3,178=23 kts.

Notes
Most of these former German fast coastal minesweepers are now used as patrol boats. Photograph in the 1957-58 edition.

Ex-R 149 R 234 R 245 R 257 R 262 R 265 R 288
R 238 R 254 R 258 R 264 R 270 R 289 R 409-453

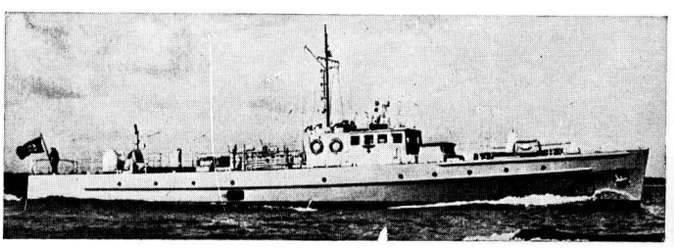
Displacement: 145 tons (R 149 155 tons)
Dimensions: 128¾×18¾×5 feet
Guns: 3—20 mm. AA
Machinery: M.A.N. diesel. B.H.P.: 2,500=21 kts,

Notes
Many of these former German fast coastal minesweepers are now employed as patrol boats.

Ex-R 53 58 63 65 87 90 103 105 107 113 122 124

Displacement: 125 tons
Dimensions: 124×19×5 feet
Guns: 3—20 mm. AA.
Machinery: Diesel. 2 shafts. B.H.P.: 1,800=20 kts.
Complement: 20

Notes
Former German fast coastal minesweepers. Launched in 1939-41. Of wooden construction. Now used as patrol boats.



Ex-R 28 *Added* 1948

Ex-R 23 **Ex-R 28**

Displacement: 115 and 110 tons
Dimensions: 116×16½×5½ feet
Guns: 1—20 mm. AA.
Machinery: M.A.N. diesels. 2 shafts. B.H.P.: 1,800=18 kts.
Complement: 16

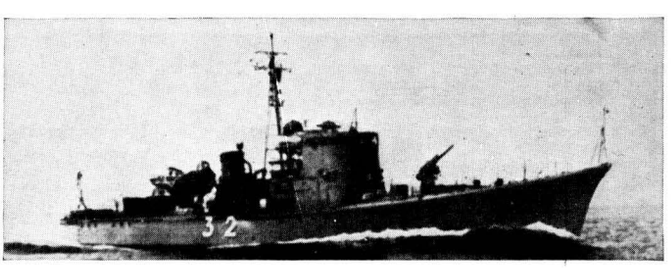
Notes
Former German fast coastal minesweepers. Launched in 1937. Of wooden construction. Now used as patrol boats.

3 Ex-Japanese Type

HAIFENG **HAILUNG**

Displacement: 200 tons
Dimensions: Length: 143 feet
Guns: 2—37 mm. AA.
A/S weapons: 2 D.C. racks
Machinery: Diesels=14 kts.

Notes
Maritime Border Guard (MVD) ships. Former Manchukuan Navy submarine chasers. Built in Japan in 1933. Acquired by Russia at the end of the Second World War Pennant No. 702.



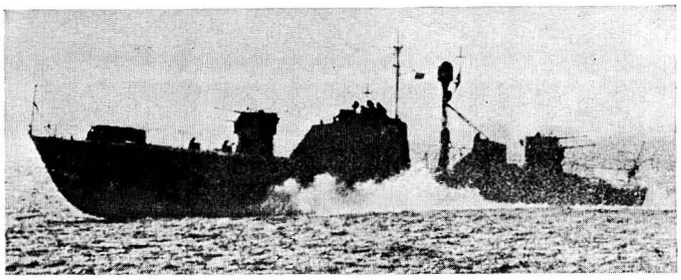
1954, *Hajime Fukaya*

Ex-No. 38

Displacement: 460 tons
Dimensions: 167½ (*o.a.*)×22×9 feet
Guns: 1—3·1 inch AA., 3—25 mm. AA., 1—13 mm AA., 36 D.C.
Machinery: Diesels. 2 shafts. B.H.P.: 1,700=16 kts.

Notes
Former Japanese. Launched 1940. Employed in minesweeping after the war. Delivered to U.S.S.R. at Nakhodka, 3 Oct. 1947.

MOTOR TORPEDO BOATS



New Construction — *Added* 1957

Notes
There are reported to be a total of about 1,000 motor torpedo boats in the Soviet Navy.

" P 8 " Class

Displacement:	73 tons
Dimensions:	83½ (*o.a.*) × 20 × 5½ feet
Guns:	2 twin 20 mm. or 13 mm.
Tubes:	2—21 inch
Machinery:	Gas turbine engines. H.P.: 5,000

Notes
A new class of motor torpedo boats fitted with hydrofoils. Built in 1961. Armament varies.

412 " P 6 " Class

Displacement:	100 tons
Machinery:	Speed = 40 kts.

Notes
A numerically large class of heavy interchangeable motor torpedo gunboats built from 1951 to 1960.

" PA 5 " Class

Displacement:	52 tons
Dimensions:	85½ × 20 × 6 feet
Guns:	4—25 mm. AA. (two twin)
Tubes:	2—21 inch
Machinery:	Speed = 42 kts.

Notes
No. 513 Series. Built in 1956. Armament varies. Can carry 4—21 inch torpedo tubes and 2—25 mm. AA. guns alternatively.

263 " PA 4 " Class

Displacement:	50 tons
Dimensions:	85½ × 20 × 6 feet
Guns:	4—25 mm. AA.
Machinery:	Diesel engines. B.H.P.: 2,000 = 42 kts.

Notes
A numerically large class of medium motor torpedo boats with aluminium hulls built from 1951 to 1957. Fitted with forward hydrofoil.

" PB " Class

Displacement:	30 tons
Dimensions:	65¾ × 16 × 4 feet
Guns:	2—13 mm. AA. M.G.
Tubes:	2—21 inch
Machinery:	Speed = 40 kts.

Notes
A smaller type of motor torpedo boat which did not run into the number at first expected.

100 " PA 3 " Class

Displacement:	50 tons
Dimensions:	82 × 16¾ × 5½ feet
Guns:	2—25 mm. AA.
Tubes:	2—21 inch
Machinery:	Speed = 42 kts.

Notes
A medium type of motor torpedo boats. All capable of being converted into gunboats.

90 " PA 2 " Class

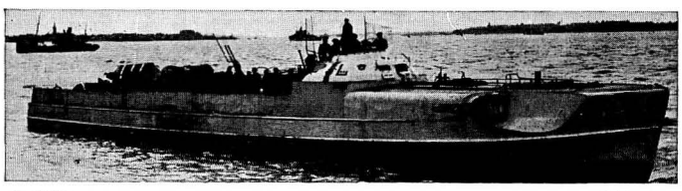
Displacement:	45 tons
Dimensions:	82 × 16½ × 5¾ feet
Guns:	2—25 mm. AA. or 4—13 mm. M.G.
Machinery:	Speed = 40 kts.

Notes
An intermediate type of motor torpedo boats. Have been interchanged as gunboats.

80 " PA 1 " Class

Displacement:	32 tons
Dimensions:	65¾ × 13¼ × 4 feet
Guns:	2—13 mm. AA. M.G.
Tubes:	2—18 inch
Machinery:	Speed = 38 kts.

Notes
First of the three " PA " types of post-war construction. Gun and torpedo armament can be varied according to employment.



Ex-S 50 — 1948

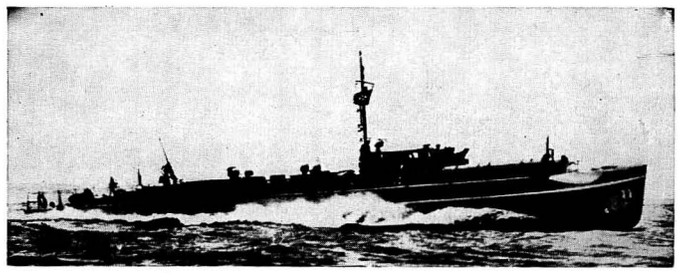
30 Ex-German Types

Ex-S 50	Ex-S 86	Ex-S 110	Ex-S 132	Ex-S 209	Ex-S 227
Ex-S 65	Ex-S 99	Ex-S 113	Ex-S 135	Ex-S 211	Ex-S 704
Ex-S 81	Ex-S 101	Ex-S 118	Ex-S 175	Ex-S 214	Ex-S 707
Ex-S 82	Ex-S 109	Ex-S 123	Ex-S 204	Ex-S 219	Ex-S 708
				Ex-S 222	Ex-S 709

Displacement:	92 tons *standard* (113 tons *full load*)
Dimensions:	114½ × 16 × 7 feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Tubes:	2—21 inch (4 torpedoes)
Machinery:	Mercedes diesels. 3 shafts. B.H.P.: 7,500 = 41 kts.
Oil fuel:	20 tons

Notes
Launched in 1939-44. Of wooden construction. Some are being used as fast patrol boats.

Motor Torpedo Boats—*continued*

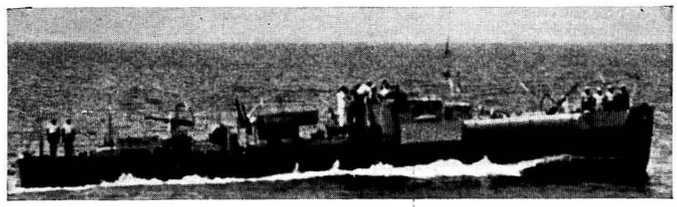


Ex-S 11 — *Added* 1948

Ex-S 11 Ex-S 12 Ex-S 16 Ex-S 24

Displacement:	62 tons *standard* (76 tons *full load*)
Dimensions:	113 × 14 × 4 feet
Guns:	1—20 mm. AA., 2 M.G.
Tubes:	2—21 inch
Machinery:	Benz diesels. 3 shafts. B.H.P.: 3,960 = 33 kts.
Oil fuel:	14 tons

Notes
Launched in 1934-39. Of wooden construction. Employed as patrol boats.



MS Type — *Added* 1952, *Lieut. Aldo Fraccaroli*

4 Ex-Italian MS Type

Ex-MS 52 Ex-MS 61 Ex-MS 65 Ex-MS 7

Displacement:	69 tons
Dimensions:	92 × 14¾ × 5 feet
Guns:	2—20 mm. AA.
Tubes:	2—21 inch
Machinery:	B.H.P.: 3,000 = 32 kts
Complement:	18

Notes
Former Italian MS boats launched in 1940-43. Now obsolescent and of little military value.

4 Ex-Italian MAS Type

Ex-MAS 516 Ex-MAS 519 Ex-MAS 520 Ex-MAS 521

Displacement:	24 tons
Dimensions:	62 × 14¼ × 5 feet
Guns:	2—13 mm. AA.
Torpedoes:	2—17·7 inch
Machinery:	B.H.P.: 2,300 = 40 kts.
Complement:	15

Notes
There are still some units of Italian design, as illustrated. Machinery also of Italian design. Distributed between Baltic, Black Sea, and Far East. Distinctive numbers are painted on C.T.s.

Transfer Notes
Under the Italian Peace Treaty, *MS* 52, 53, 61, 65, 75; *MAS* 516, 519-21; *ME* 40; and *VAS* 245, 246, 248 were all to be ceded to the Soviet Navy. *VAS* 245 was delivered on 30 June 1949. *MS* 52, 61, 65, 75, and *MAS* 516, 519, and *ME* 40 were also delivered.

Recent Disposals
The remaining old Russian motor torpedo boats of the " Sha 4 " type, " G 5 " type and " D " type, are obsolete and worn out and have been stricken off the list.

General Notes
Motor torpedo boats of the " Marine Border Guard " have pennant designations as follows:
MO (Morskoi Okhotnik) MTB type vessels (Sea Hunter)
SK (Storozhevoi Kater) MTB and SC type (Guard Cutter)
PK (Pogranichnyi Kater) MTB type motor launches (Border Cutter)

RIVER MONITORS

LENIN (ex-*Shtorm*)
SUN-YAT-SEN (ex-*Shkval*)
KRASNYI VOSTOK (ex-*Vyuga*)
CHICHERIN (ex-*Vikhr*)
SVERDLOV (ex-*Ouragan*)

Displacement:	965 tons
Dimensions:	242¾ × 39½ × 6½ feet
Guns:	2—5·9 inch, 4—4·7 inch, 4—37 mm.
Armour:	4½" turrets, 1⅜" hull
Machinery:	4 sets diesels. B.H.P.: 3,000 = 15 kts.
Oil fuel:	100 tons
Complement:	104

Notes
Launched in 1910. In the Amur Flotilla. Two single (5·9) and two twin (4·7) turrets.

KAZAN **UDARNYI** **and two others**

Displacement:	1,900 tons
Dimensions:	238 × 39 × 10 feet
Guns:	4—5·1 inch, 4—3 inch, 6—47 mm.
Machinery:	4 sets diesels. B.H.P.: 3,200 = 15 kts.

Notes
In the Amur Flotilla. *Udarnyi* doubtful.

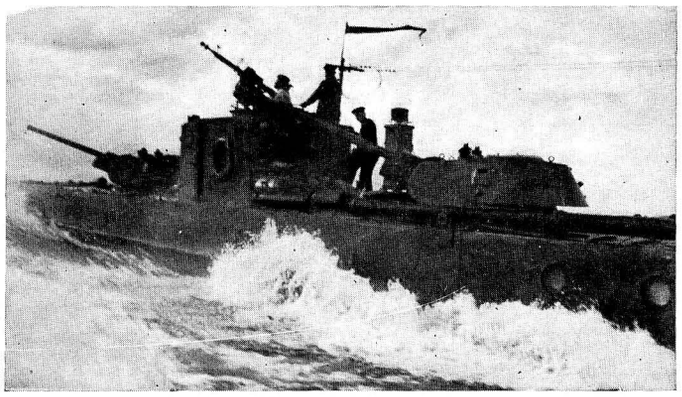
S. M. KIROV **I. V. STALIN**

Dimensions:	170 × 34 × 6½ feet
Guns:	6—5·9 inch, 1—3 inch, 4—37 mm
Machinery:	Diesel = 25 kts.
Complement:	45 to 50

Notes.
In the Amur Flotilla. Two triple 5·9 inch turrets, 2"—2¼" armour above waterline. 1"—1¼" below.

Recent Disposals
The very old ex-Austro-Hungarian river monitors *Ardeal* (ex-*Temes*), *Basarabia* (ex-*Inn*), and *Bucovina* (ex-*Sava*), and the river monitor ex-*Ion C. Bratianu*, of the ex-Roumanian Danube Flotilla, if they all still exist, can be only of doubtful military value. Full details of these ships are given in the 1957-58 edition.

MOTOR GUNBOATS



1125 Type — *Added* 1951

Improved BK Type

Displacement:	100 tons
Dimensions:	128 × 19 × 4¾ feet
Guns:	2—3·9 inch, 2—37 mm. AA., 2—13 mm. M.G
Machinery:	Speed=25 kts

Notes
A new type of heavily armed gunboat reported to be in mass production. An improved version of the BK type.

BK Type

Displacement:	85 tons
Dimensions:	115 × 18 × 4½ feet
Guns:	2—3 inch, 1—37 mm. AA, 2—13 mm. M.G.
Machinery:	Speed=25 kts.

Notes
Displacement and dimensions given above are approximate.

Improved "1125" Type

Displacement:	70 tons
Dimensions:	100 × 17½ × 4½ feet
Guns:	1—3·9 inch, 2 M.G.
Machinery:	Speed=25 kts.

Notes
A new type of armoured gunboat recently built and under construction. An improved version of the 1125 Type, see below, with a larger hull

Early "1125" Type

Displacement:	42 tons *standard*
Dimensions:	82 × 12½ × 3 feet
Guns:	2—12 pdr. (3 inch), 1 AA. M.G. (6 in some)
Machinery:	Speed=25 kts.

Notes
The two twelve-pounders are in tank-type turret (see photo). Launched in 1944. The speed of these craft is also reported as 28 kts.

Danube Motor Gunboats
Among the vessels in the Danube the type of craft most seen is a 30/40 tons motor gunboat with 1 rocket launcher (16 rockets) forward, and 3 light AA. guns aft.

Recent Disposals
The shallow draught armoured motor gunboats of the "1124" type are obsolete and are being discarded.

SUBMARINE CHASERS

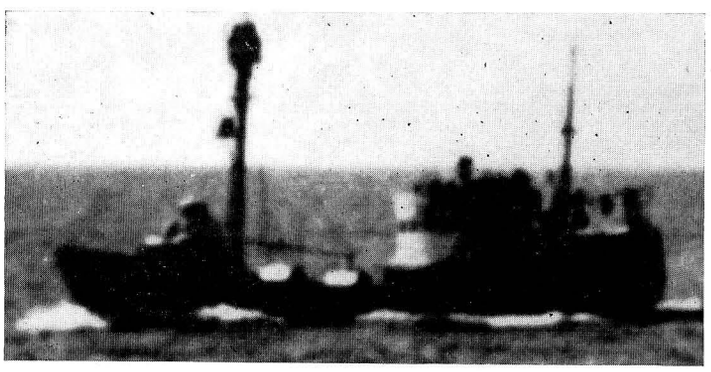
102 "S.O.1" Class

Displacement:	115 tons *light*, 120 tons *normal*
Dimensions:	138 (*o.a.*) × 20 × 7 (*mean*), 10 (*max.*) feet
Guns:	6—25 mm. (3 twin mountings)
A/S weapons:	4 five-barrelled A.S.W. ahead throwing rocket launchers, 2 D.C.T.
Machinery:	3 diesels. B.H.P.: 3,500=26 kts.
Complement:	30

Built from 1957 to 1960. Apparently the design is an enlarged version of the ex-U.S. "110-foot" class of SC's built during the Second World War (see below). Steel hull.

Disposal Notes
Of the 78 United States submarine chasers of the SC type transferred from the U.S.A. to the U.S.S.R. during the Second World War under the lend-lease programme, 4 were lost, 57 were destroyed and 10 were returned to the United States for disposal after the war, two were destroyed before United States observers in the Far East in 1956, and the remaining five were sunk in the presence of United States officials in the Far East on 21 Sept. 1960.

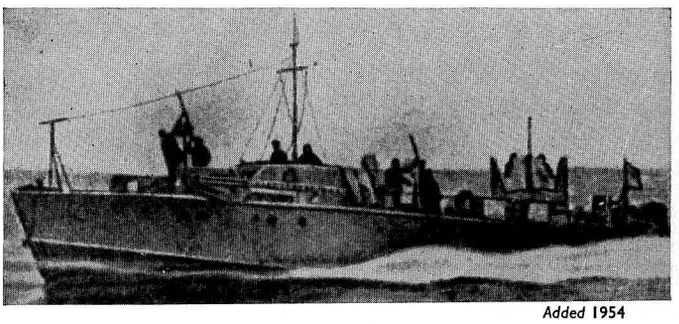
DIRECTION TRAWLERS



INTELLIGENCE TRAWLER — 1962

Notes
A considerable number of observation trawlers, equipped with radio aerials and direction-finding apparatus have been sighted by British and American warships during international combined sea and air exercises.

MOTOR LAUNCHES



Added 1954

BM O Type

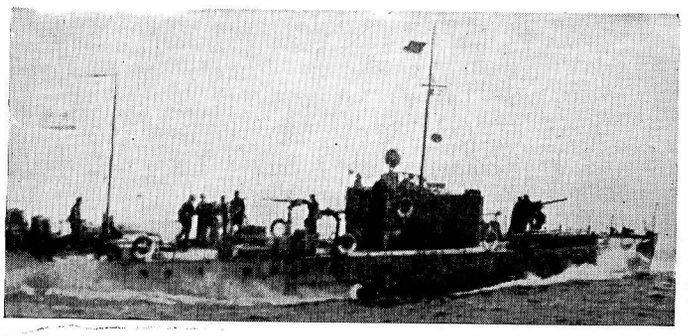
Displacement:	61 tons
Dimensions:	78¾ × 13¾ × 5½ feet
Guns:	1—37 mm. AA., 3—13 mm. AA
A/S weapons:	Depth charges
Machinery:	2 petrol engines. 2 shafts. B.H.P.: 2,600=23 kts.
Fuel:	6 tons petrol
Complement:	25

Notes
Launched in 1941.

6 MO 1 Type

Displacement:	51 tons
Dimensions:	85½ × 13⅛ × 4½ feet
Guns:	2—13 mm AA.
A/S weapons:	Depth charges
Machinery:	2 petrol engines. 2 shafts. B.H.P.: 1,300
Fuel:	5 tons
Complement:	21

Notes
Launched in 1939.



No. 201 — 1941, *Official*

12 VMV Type

Nos. 201-212

Dimensions:	82 × 13¾ × 3½ feet
Displacement:	30 tons
Guns:	2—47 mm.
Machinery:	B.H.P.: 1,120=25 kts.
Complement:	10

Notes
Motor vessels, similar to the Finnish VMV type. Launched in 1937-38.

BKM Type

Displacement:	20 tons
Dimensions:	57⅜ × 12⅜ × 4½ feet
Guns:	2—13 mm. AA.
A/S weapons:	Depth charges:
Machinery:	Petrol engines. 2 shafts. B.H P.: 1,650=32 kts.
Complement:	10

PK Type

Displacement:	23 tons
Dimensions:	74 × 13⅓ × 4½ feet
Guns:	1—13 mm. AA., 2 M.G.
A/S weapons:	Depth charges
Machinery:	Petrol engines. 2 shafts. B.H.P.: 1,650=28 kts.
Complement:	12

TK Type

Displacement:	20 tons
Dimensions:	78¾ × 12¾ × 3⅜ feet
Guns:	1—13 mm. AA., 2 M.G
A/S weapons:	Depth charges
Machinery:	Petrol engines. 2 shafts. B.H.P.: 1,650=23 kts.
Complement:	12

MKM Type

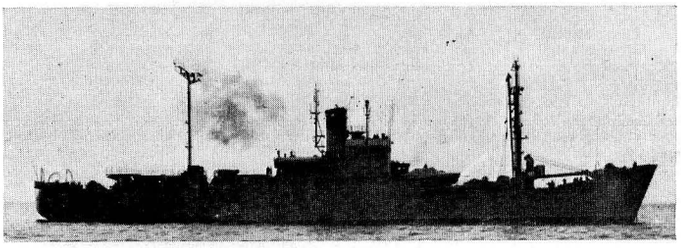
Displacement:	18 tons
Dimensions:	53 × 10½ × 4 feet
Guns:	1—13 mm. AA., 1 M.G.
A/S weapons:	Depth charges
Machinery:	Petrol engines. 2 shafts. B.H.P.: 900=18 kts.
Complement:	9

ZK Type

Displacement:	19 tons
Dimensions:	64⅓ × 11 × 4 feet
Guns:	2 M.G.
A/S weapons:	Depth charges
Machinery:	Petrol Engines. 2 shafts. B.H.P.: 2,600=25 kts.
Fuel:	12 tons
Complement:	12

Recent Disposals
The three old motor launches of the "MO 2" type and the three old motor launches of the "MO 4" type are obsolete on account of their age and it is reported that they are being scrapped.

DEPOT SHIPS



ATREK, V(B) -272 1959, *Sergei Romanov*

9 Advanced Submarine Parent Ships

AMBURAN **ARARAT** **ATREK** **AYAT**

Displacement:	3,500 tons *standard*
Measurement:	3,258 tons *gross*
Dimensions:	336 × 49 × 20 feet
Machinery:	Speed = 13 kts.

Notes
Advanced submarine parent ships. Built in 1955-57, and converted to naval use from " Kolomna " class freighters. There are a total of nine of these vessels employed as submarine tenders and replenishment ships. *Atrek*, fitted with radar homing beacons, is reported to be comprehensively equipped for servicing nuclear powered submarines and ballistic missile submarines.

V. KOTELNIKOV

Notes
Submarine tender. Visited Stockholm in 1962 with three submarines.

PAYSHERD (ex-*Otto Wunche*)

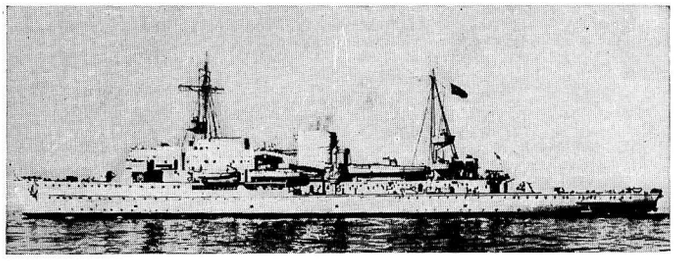
Displacement:	4,730 tons
Dimensions:	433 × 52½ × 14½ feet
Guns:	4—4·1 inch, 2—37 mm., 12—20 mm.
Machinery:	4 diesels. 2 shafts. B.H.P.: 12,400 = 20 kts.

Notes
Ex-German. *Paysherd* was built by Howaldt, Kiel. Launched in 1941.

KUBAN (ex-*Waldemar Kophamel*)

Displacement:	4,726 tons
Dimensions:	146 × 52½ × 14½ feet
Guns:	2—4·1 inch, 2—37 mm. AA.
Machinery:	4 MAN diesels. 2 shafts. B.H.P.: 12,400 = 20 kts.

Notes
Ex-German. Launched in 1939. Submarine tender. Salvaged in 1950-51 after being sunk in shallow water by bombing during the Second World War. Underwent repairs and reconditioning 1951-1957 and is in service.

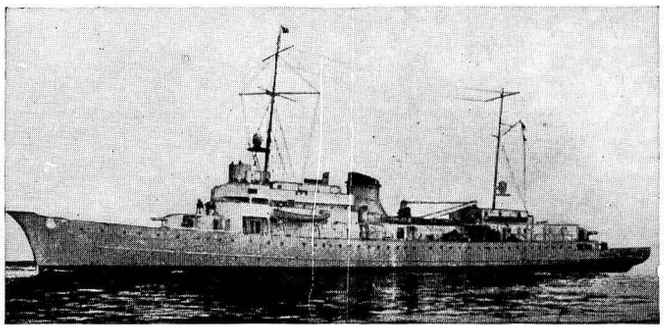


ADOLF LUDERITZ

Ex-ADOLF LÜDERITZ

Displacement:	3,615 tons
Dimensions:	374 × 47½ × 14 feet
Guns:	4—4·1 inch, 2—37 mm., 12—20 mm.
Machinery:	4 diesels. B.H.P.: 12,400 = 20 kts.

Notes
Launched in 1939. Was employed by Germans as depot ship for motor torpedo boats. M.T.B. parent ship. In the Baltic.



ANGARA 1948

ANGARA (ex-*Hela*)

Displacement:	2,300 tons
Dimensions:	323 × 42½ × 11 feet
Guns:	2—4·1 inch, 1—37 mm. AA., 2—20 mm. AA.
Machinery:	4 MAN diesels. 2 shafts. B.H.P.: 6,300 = 18 kts.

Notes
Former yacht built by Stülcken, Hamburg. Launched in 1939. In the Black Sea.

SMOLENSK

Displacement	6,000 tons
Dimensions:	314½ (*pp.*), 331 (*o.a.*) × 46 × 19½ feet
Machinery:	Triple expansion. 1 shaft. I.H.P.: 1,500 = 11 kts.
Coal:	625 tons
Complement:	130

Notes
Launched in 1931. Squadron supply ship. Measurement: 4,200 tons *gross*. In the Far East.

Depot Ships—*continued*



V(B) 415 1959

4 Missile Range Ships

CHUKOTKH **SAKHALIN** **SIBIR** **SUCHAN**

Measurement:	*Chukotkh* 3,800 tons *gross*, *Sakhalin* and *Sibir* 3,767 tons *gross*, *Suchan* 3,710 tons *gross*
Dimensions:	493½ × 56 × — feet (ships vary)
Guns:	6—45 mm. AA., 2 M.G.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 3,300 = 12 kts.

Notes
Converted Russian merchant vessels employed as missile range ships in the Pacific. *Sakhalin* and *Sibir*, reported to be of almost equal size, have three bubble-like domes forward and aft, and both carry helicopters. *Suchan*, somewhat smaller, is also equipped with a helicopter flight deck as in *Sakhalin* amd *Sibir*. Launched in 1930. *Sibir* was formerly a depot ship for M.T.B.'s and coastal craft.

IRTYSH (ex-*Kronstadt*)

Displacement:	5,800 tons
Dimensions:	328 × 46 × 19½ feet
Guns:	4—3 inch, 3—45 mm. AA., 2 M.G.
Machinery:	Triple expansion. 1 shaft. I.H.P.: 1,500 = 12 kts.
Coal:	430 tons
Complement:	240

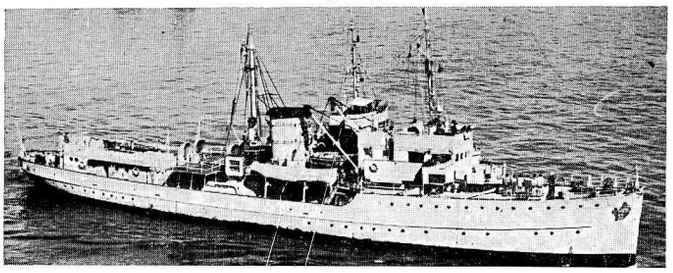
Notes
Parent ship and general supply vessel for submarines in the Baltic. Launched in 1931

SARATOV

Notes
Submarine tender and depot ship of the " Anadyr " class.

USA

Notes
Refrigerator cargo ship and depot ship.



TEREK 1946, *London Studio*

TEREK (ex-*Elbe*)

Displacement:	1,600 tons
Dimensions:	189 × 27½ × 10½ feet
Guns:	1—3·5 inch, 1—20 mm. AA.
Machinery:	2 sets Linke-Hofmann-Busch 6-cyl. 4-stroke diesels. 2 shafts B.H.P.: 1,600 = 15 kts.
Complement:	48

Notes
Launched in 1931. Ex-German. Fishery protection depot ship. In the Black Sea.

SMOLNYI

Displacement:	4,800 tons *standard*
Dimensions:	331¼ × 45½ × 12½ feet
Guns:	5—45 mm. AA.
Machinery:	Reciprocating engines. 1 shaft. I.H.P.: 2,500 = 12 kts.
Complement:	148

Notes
Submarine repair tender and supply ship. Launched in 1929. In the Baltic.

EMBA (ex-*Ilmatar*)

Displacement:	2,350 tons
Dimensions:	269 × 41⅝ × 23⅝ feet
Machinery:	Speed: 14 kts.

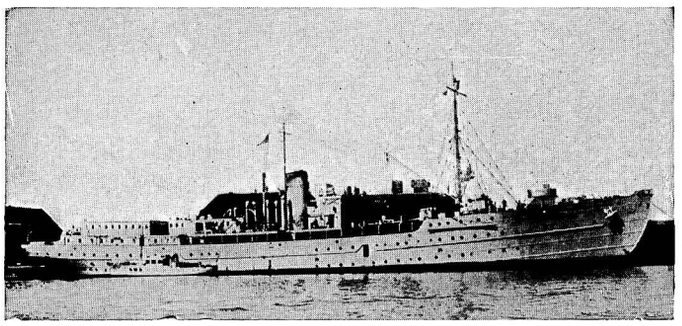
Notes
Launched in 1929. Mercantile measurement of this ship is 4,000 tons *gross*.

VOLGA (ex-*Juan Sebastian De Elcano*, ex—)

Displacement:	9,300 tons
Dimensions:	459 × 56 × 21½ feet
Guns:	2—3 inch, 3—45 mm. AA., 5 M.G.
Machinery:	Parsons turbines. 2 shafts. S.H.P.: 5,500 = 14 kts.
Oil fuel:	1,090 tons
Complement:	260

Notes
Built by Echevarrieta and Larrinaga, Cadiz. In the Black Sea. The Russian name as a merchant ship is not known, but she was probably immediately incorporated in Russian Navy.

Depot Ships—*continued*



WEICHSEL

Ex-WEICHSEL (ex-*Syra*)

Displacement:	3,974 tons
Dimensions:	309½ × 44 × 13½ feet
Guns:	4—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 1,400=10·5 kts.
Boilers:	2 watertube
Coal:	425 tons
Complement:	135

Notes
Depot ship for submarines. Built by Howaldt, Kiel. Launched in 1923. In the Baltic.

NEVA (ex-*Essequibo*)

Displacement:	13,300 tons
Dimensions:	450½ (*pp.*), 466 (*o.a.*) × 57⅔ × 24¼ feet
Guns:	3—3 inch, 6—45 mm. AA., 8 M.G.
Machinery:	Quadruple expansion. I.H.P.: 5,800=15 kts.
Oil fuel:	960 tons
Complement:	340

Notes
Launched in 1914. Fleet cargo ship and replenishment tender. In the Black Sea.

PRIMORYE (ex-*Hai Yen*, ex-*Bulga*, ex-*Signal*)

Displacement:	4,000 tons
Dimensions:	262½ × 36 × 14½ feet
Machinery:	Triple expansion. I.H.P.: 940=9 kts.
Coal:	400 tons
Complement:	60

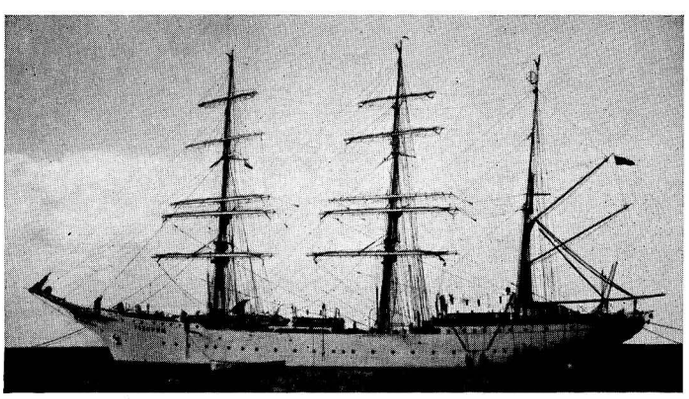
Notes
Launched in 1903. General depot and repair ship and supply vessel. In the Black Sea.

POLYARNAYA ZVEZDA

Displacement:	5,000 tons
Dimensions:	349 × 46 × 17½ feet
Guns:	3—3 inch, 3—45 mm. AA., 2 M.G.
Machinery:	M.A.N. diesel. 2 shafts. B.H.P.: 1,200=10 kts.
Oil fuel:	225 tons

Notes
Launched on 31 May 1890. Re-engined in 1936. Ex-Imperial Yacht, rebuilt in 1936-37. Parent ship to submarines in the Baltic.

TRAINING SHIPS



TOVARISCH 1958, *R. M. Scott*

TOVARISCH (ex-*Gorch Foch*)

Displacement:	1,350 tons
Dimensions:	242⅔ × 39⅓ × 15 feet
Guns:	2—20 mm. AA.
Machinery:	MAN diesels. B.H.P.: 520=8 kts.
Oil fuel:	25 tons
Radius:	3,500 miles at 8 kts.
Complement:	260

Notes
Barque. Ex-German training ship. Built by Blohm & Voss, Hamburg. Launched in 1933. Sail area: 2,150 sq. yds.

Other training ships reported:

ENISEJ

PRAKTIKA (ex-*Passat*)

TOBOL

UCHEBA (ex-*Mousson*)

Displacement: 300 tons

Notes
Three masts. In the Baltic. Sailing vessels for training cadets, boys and volunteers. There are about ten three-masted schooners of 300 tons with one square sail on the foremast of the same class as the *Praktika* and *Ucheba*, built in Finland. They are described as very nice little ships.

Training Ships—*continued*

NYEMAN (ex-*Isar*, ex-*Puma*)

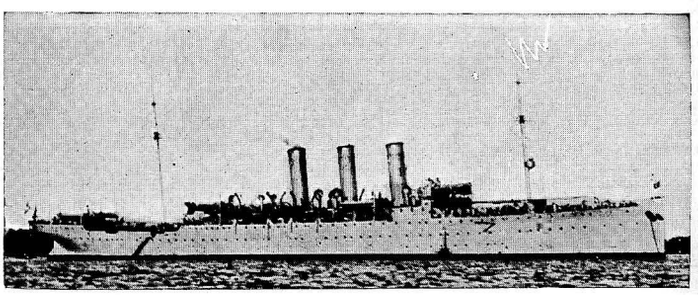
Displacement:	3,850 tons
Dimensions:	319 × 45½ × 13 feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,000=12 kts.

Notes
Built by Bremen-Vulcan. Launched in 1930. Converted merchant vessel. Former Depot Ship for submarines. Now a Training ship in the Baltic. *Nyeman* is the name of a river in Western Russia.

Ex-CRISTOFORO COLOMBO, Ex-Z18

Displacement:	2,787 tons
Dimensions:	218 (*pp.*) × 48½ × 20½ feet
Sail area:	18,700 sq. ft.
Machinery:	2 Tosi diesels with electric drive to 2 Marelli motors. 2 shafts. H.P.: 1,600=10 kts.
Oil fuel:	103 tons
Radius:	6,000 miles at 8 kts.

Notes
Built at Castellammare. Launched on 4 Apr. 1928. Assigned to Soviet Navy by Italian Peace Treaty. Delivered to Russia, Feb. 1949.



KOMSOMOLETS *Added 1948*

KOMSOMOLETS (ex-*Okean*)

Displacement:	11,900 tons *standard*
Dimensions:	468⅔ × 55½ × 25 feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 11,000=18 kts.
Boilers:	4, of different types
Complement:	289

Notes
Built by Howaldt Dockyard, Kiel. Launched in 1902. Training ship for engineers and stokers. In service in the Baltic and still steams. She has been refitted with only two funnels, instead of three (the second funnel having been removed).

AURORA

Dimensions:	410 × 55 × 21¼ feet
Guns:	10—5·1 inch, 55 cal., 4—3 inch AA.

Notes
Former cruiser. Launched in 1900. Still in service as training ship for cadets at Leningrad. But she is more famous to the Russians as the ship from which the first round of the October Revolution was fired. As such she is shown to all who visit Leningrad under Intourist supervision.

Recent Disposals
The very old training ship *Leningradski Soviet* (ex-*Vernyi*) is worn out and of no use at sea. The same applies to the two very old coastguard vessels *Dozornyi* and *Razvedchik*, the ex-German battleship *Tsel* (ex-*Hessen*) formerly used as a wireless controlled target ship, the ex-German torpedo boat *Vystrel* (ex-*Blitz*, ex-*T 185*, ex- *V 185*) used for wireless target control of the ex-*Hessen*, and the four target towing tugs *Khorek*, *Kunitsa*, *Laska* and *Vydra*. Full details of these ships are given in the 1957-58 and earlier editions.

KRASNOYE ZNAMYA (ex-*Khrabryi*)

Displacement:	1,740 tons
Guns:	5—5·1 nch, 55 cal., 3—45 mm. AA.
Armour:	5" belt,11" deck, 1" C.T.
Machinery:	Triple expansion. I.H.P.: 2,100=14 kts.
Oil fuel:	
Boilers:	6

Notes
Launched on 21 Nov. 1895. Hull of extremely strong construction. Excellent sea-boat. Represents an extraordinary concentration of power in small man of war. Three times rebuilt and rearmed. Sunk by Finnish MTB in the battle of Lavansaari, Gulf of Finland, autumn 1942, salved by Russians, repaired and entirely rebuilt, ram removed, large modern bridgework, light tripod mast, large streamlined funnel added Subsequently served as flagship of Rear-Admiral commanding MTB Flotillas in the Baltic. Now used as a gunnery training ship. Illustration in the 1957-58 edition.

BOOM DEFENCE VESSELS

LADOGA **ONEGA** **VYATKA**

Displacement:	530 tons
Dimensions:	185⅓ × 30½ × 4½ feet
Guns:	3—45 mm. AA., 1 M.G.
Machinery:	Triple expansion. I.H.P.: 330=8 kts.
Coal:	10 tons
Complement:	50

Notes
The boom defence vessel *Lena* (ex-German *Franz E. Schütte*) is reported to have been returned to the Merchant Navy.

FISHERY PROTECTION VESSEL

VOROVSKI (ex-*Yaroslavna*, ex-yacht *Lysistrata*)

Displacement:	2,300 tons
Dimensions:	285 (*pp.*), 315 (*o.a.*) × 40 × 18 feet
Machinery:	Triple expansion. 2 shafts. H.P.: 3,500=18 kts.
Guns:	2—4·7 inch, 2—3 pdr., 2 M.G
Complement:	100

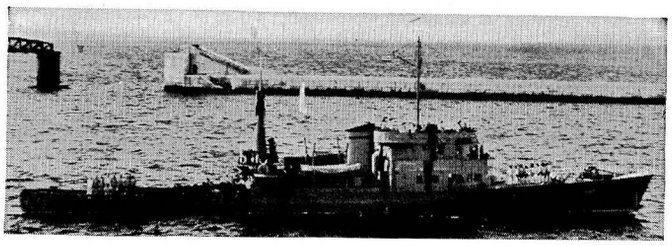
Notes
Built by Wm. Denny & Bros. Ltd., Dumbarton. Launched in 1900. In the Far East.

AIRCRAFT TENDERS

AERONAVT (ex-*Falke*)

Displacement:	2,040 tons
Dimensions:	322½ × 46 × 6¾ feet
Machinery:	2 shafts. H.P.: 1,800=12 kts

Notes
Ex-German. Built by Stülkenwerff. Launched in 1942. Equipped with a catapult. In the Baltic.



KODOR 1948

KODOR (ex-*Gunter Pluschow*)

Displacement:	375 tons
Dimensions:	176½ × 27½ × 8¾ feet
Machinery:	Diesels. 2 shafts. B.H.P.: 3,200=19 kts
Oil fuel:	50 tons
Radius:	4,500 miles at 15 kts.
Complement:	30

Notes
Ex-German aircraft tender acquired and renamed. Built by Norderwerft, Hamburg. Completed on 14 Apr. 1935. In the Black Sea.

GUNBOATS

ARDAGAN **KARS**

Notes
Built near Leningrad in 1950 for the Caspian Sea Squadron of the Russian Navy.

KRASNAYA ABKHAZIYA **KRASNAYA GRUZIYA**
KRASNAYA ARMENIYA (ex-*Krasnyi Krym*) **KRASNYI ADZHARISTAN**

Displacement:	1,100 tons
Dimensions:	Draught: 3 feet forward, 9 feet aft
Guns:	2 or 3—5·1 inch, 2—3 inch AA., 2—45 mm., 2—13 mm., M.G.
Mines:	248 to 300
Machinery:	Triple expansion. I.H.P.: 640 to 750=9 kts.
Oil fuel:	150 tons

Notes
Launched in 1916. In the Black Sea. Though they are fitted for minelaying they are not specially built minelayers, but auxiliary gunboats—converted landing vessels armed with guns during the Russian civil war of 1918-22. Photograph of *Krasnaya Abkhaziya* in the 1957-58 edition.

KRASNYI AZERBAIDZHAN (ex-*Trotsky*, ex-*Ardagan*) **LENIN** (ex-*Kars*)

Displacement:	700 tons
Dimensions	203 × 28½ × 9½ feet
Guns:	3—4 inch, 2—45 mm. AA., 2—37 mm. AA., 4 M.G.
Machinery:	Diesel. B.H.P.: 2,200=11 kts.
Complement:	126

Notes
Launched 1909. Both in Caspian Sea. The 3 auxiliary gunboats of the "Moskva" type have reverted to merchant vessels.

RIVER GUNBOATS

AKTIVNYI

Displacement:	750 tons
Dimensions:	236 × 27 × 5½ feet
Guns:	2—4 inch, 4—45 mm. AA., 6 M.G.
Machinery:	2 sets diesels. B.H.P.: 1,600

Notes
In the Amur Flotilla

ZHELEZNYAKOV

Displacement:	240 tons
Dimensions:	157½ × 25 × 4½ feet
Guns:	2—4 inch, 3—45 mm. AA., 2—37 mm. AA.
Machinery:	2 sets diesels. B.H.P.: 300

Notes
In the Danube Flotilla.

Ex-**BIEDNOTA** (ex-*Vogul*) **KRASNYI BURYAT** (ex-*Buryat*)
KRASNYI MONGOL (ex-*Mongol*) Ex-**RABOTCHI** (ex-*Kiryiz*)
KRASNYI MORYAK (ex-*Korel*) **TREVOGA** (ex-*Votyak*)

Displacement:	190 tons
Dimensions.	164 × 27 × 2 feet
Guns:	2—3 or 4·7 inch, 1—4·8 inch (122 mm.) howitzer, 2 M.G.
Machinery:	H.P.: 500=11 kts.
Fuel:	145 tons

Notes
Launched in 1907. In the Amur Flotilla. If still in service have been renamed. The majority of the river flotilla of the former Manchurian Navy is believed to be in Soviet hands. Photograph of *Krashyi Mongol* in the 1957-58 edition.

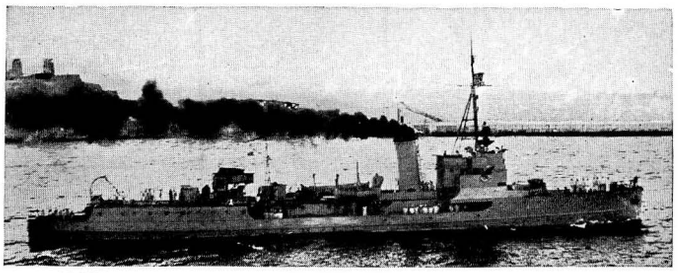
NADYOZHNYI (ex-*Drochanin*)

TENDERS

2 Torpedo Recovery Ships

TSL 24
Notes
Ex-Japanese destroyer of the "Matsu" class employed as a torpedo recovery ship. Pennant No. TSL 24.

TSL 64
Notes
Ex-Japanese destroyer of the "Temzuki" class employed as a torpedo recovery ship. Pennant No. TSL 64.



DONETS

4 Ex-German M Type

Ex-**508** (ex-*Delphin*, ex-*M* 108) Ex-**535** (ex-*Gazelle*, ex-*Hela*, ex-*M* 135)
Ex-**530** (ex-*Fuchs*, ex-*M* 130) **DONETS** (ex-**560**, ex-*Hecht*, ex-*Hille*, ex-*M* 60)

Displacement:	350 tons (525 tons *full load*)
Dimensions:	183¾ X24¼X7¼ feet

Notes
Launched in 1918-19. *Delfin* was built by Tecklenborg, Geestemuüde, *Fuchs* by Reiherstreg, Hamburg, *Hille* by Seebeck, Geestemuüde. Transferred to Russia in 1945. It is reported that ex-*Hille* is renamed *Donets*. Used as training ships. *Donets* is in the Black Sea.

No. 16 **No. 107** **No. 172** **No. 243**
Notes
Auxiliary type vessels of the above numbers reported.

ADLER **BALAKLAVA** **VAJGACH**
Notes
General utility naval vessels for fleet tender duties.

LANDING SHIPS

10 Russian LST Type

Displacement:	850 tons
Guns:	8—37 mm. AA.
Machinery:	Diesels. B.H.P.: 4,000=15 kts.

Notes
A new type of landing ship basically similar to the British and American LST type.

4 Russian LCG Type

Displacement:	550 tons
Guns:	4—37 mm. AA., 10 rockets
Machinery:	2 shafts. S.H.P.: 1,200=12 kts.

Notes
A new type of landing ship or landing craft corresponding to the American LSMR type.

LANDING CRAFT

Russian LCT Type

Displacement: 300 tons

Notes
A new type of landing craft basically similar to the British LCT type.

Russian LC Type

55 **115** **133** **146** **148** **252** **723** **729** **740** **946**
113 **121** **134** **147** **250** **590** **725** **738** **798** **964**

Displacement:	150 tons
Dimensions:	115 × 36 × 5 feet
Machinery:	Speed=10 kts.

Notes
Carry three tanks. A new Russian class of landing craft, corresponding to the American LCT type.

3 Italian MZ Type

MZ 778 **MZ 780** **MZ 781**

Displacement:	140 tons
Guns:	1—20 mm. AA.
Machinery:	Speed: 9 kts.

Notes
Ceded by the Italian Peace Treaty. 778 and 781 were delivered to Russia on 30 June 1949

18 Ex-German AFP Type

5 **10** **11** **14** **20** **26** **27** **33** **42** **46** **65** **74** **77** **79** **80** **81** **100** **102**

Displacement:	150 tons
Machinery:	Speed: 10·5 kts.

Notes
All launched in 1941-44.

2 Ex-German MFP-D Type

1049 **1103**

Displacement:	230 tons
Machinery:	Speed: 11 kts.

Notes
Both launched in 1944.

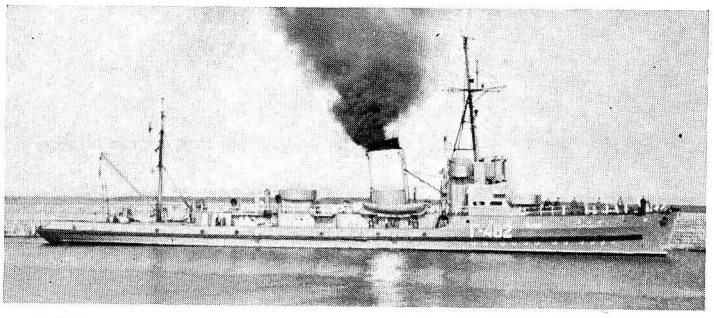
46 Ex-German MFB-A/C Type

108	**169**	**214**	**223**	**265**	**286**	**390**	**457**	**606**	**875**
109	**187**	**220**	**239**	**267**	**287**	**391**	**490**	**821**	**876**
112	**188**	**221**	**240**	**268**	**319**	**400**	**571**	**840**	**921**
114	**204**	**225**	**246**	**269**	**384**	**425**	**600**	**867**	**976**
166	**208**	**226**	**258**	**271**	**385**				

Displacement:	165 tons
Machinery:	Speed: 10·5 kts.

Notes
All launched in 1941-44. There are many more captured and refloated ex-German landing craft.

SURVEYING VESSELS



G 482 *Erich Gröner*

G 402 **G 482**

Displacement: 550 tons *standard* (750 tons *full load*)
Dimeusions: 202×28×9 feet
Machinery: Triple expansion. Exhaust turbine. IH.P.: 2,150=16 kts.
Boilers: 2 Schulz

Notes
G 402, G 482 and some other ex-German minesweepers are used as surveying vessels.

ALIDADA **GIDROSTAT** **OLEG KOSHEVOI**
EKHOLOT **LT. SHMIDT** **PRIBOI**
VARIOMETR

Notes
Pennant Nos. G-165, G-199, G-15, G-151, G-169, G-084 and G-160, respectively.

4 "Gidro" Class (Ex-Fleet Minesweepers)

GIDROFON **GIDROMTR** **GIDROSKOP** **GORIZONT**

Displacement: 650 tons *standard* (945 tons *full load*)
Dimensions: 180 (*w.l.*), 184½ (*o.a.*)×33×10 (*max.*) feet
Machinery: Diesels. 2 shafts. B.H.P.: 1,440=15 kts.
Complement: 100

Notes
Former United States steel-hulled fleet minesweepers of the "Admirable" class (see earlier page under Fleet Minesweepers) converted into surveying ships. Pennant numbers G-140, G-145, G-142 and G-139, respectively.

GIDROLOG **SORAKORAM** **VAL**

Notes
Former Japanese "Kaibokan" class converted into surveying ships. Pennant numbers G-111, G-127 and G-108, respectively.

G-71 **G-089** **G-110** **G-117** **G-138**

Notes
The above are the pennant numbers of surveying vessels reported, names unknown.

OST **VEST** **ZUID**

Displacement: 640 tons
Dimensions: 187×30½×12 feet
Guns: 2—3 inch, 4—45 mm. AA., 2—13 mm. M.G.
Mines: 100
Machinery: 2 sets diesels. 2 shafts. B.H.P.: 600=9 kts.
Fuel: 50 tons
Complement: 100

Notes
Small icebreakers on minelaying or surveying duties. All in the White Sea. Sister ship *Nord* was lost.

CHUKCHA

Displacement: 2,700 tons
Dimensions: 246×43½×14 feet
Guns: 2 M.G.
Machinery: Triple expansion. I.H.P.: 900=10 kts.
Fuel: 900 tons coal
Complement: 55

Notes
In the White Sea.

LEBEDJ

Displacement: 1,100 tons
Dimensions: 180½×29⅜×16 feet
Guns: 1—37 mm. AA., 2 M.G.
Machinery: Triple expansion. I.H.P.: 680=12 kts.

Notes
In the White Sea.

OKEAN

Displacement: 1,500 tons *standard* (3,000 tons *full load*)
Guns: 3—5·1 inch, 2—3 inch
Mines: 150
Machinery: Triple expansion. 2 shafts. I.H.P.: 2,400=15 kts.

Notes
Former minelayer now employed as a surveying vessel. Pennant No. G 098.

KAMCHADEL **PARTIZAN** **POLYARNYI**

Displacement: 1,300 tons
Dimensions: 210×32¾×11 feet
Guns: 2—4 inch, 2 M.G.
Machinery: Triple expansion. I.H.P.: 700=9·5 kts.
Fuel: 400 tons coal
Complement: 80

Notes
Partizan and *Polyarnyi* were both launched in 1937. In the Far East. Pennant Nos. G-121, G-124 and G-075, respectively.

Ex-**MEREPOEG**

Displacement: 90 tons
Machinery: Speed: 10 kts.

Notes
Ex-Estonian. Small surveying craft. Launched in 1937.

GIDROGRAF (ex-*Hydrografs*)

Displacement: 600 tons
Machinery: Speed: 10 kts.

Notes
Ex-Latvian surveying vessel and tender. Launched in 1918.

KOMPAS

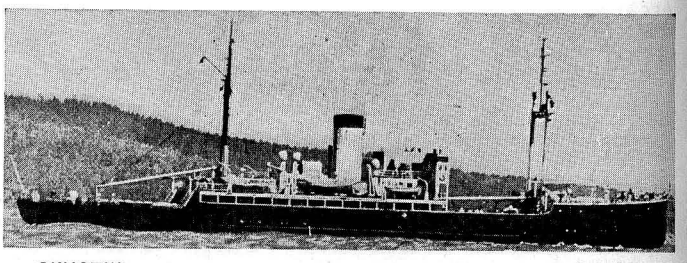
Displacement: 415 tons
Machinery: Speed: 7 kts.

Notes
Ex-Estonian. Surveying vessel and general utility ship. Launched in 1918.

GPB-21 **GPB-40** **GPB-86** **GPB-90** **GPB-285** **GPB-297**
GPB-22 **GPB-85** **GPB-88** **GPB-91** **GPB-288** **GPB-452**

Notes
Surveying boats of above pennant numbers, but no names reported.

Surveying Vessels—*continued*



OKHOTSK *Added 1955*

OKHOTSK

Displacement: 3,200 tons *full load*
Dimensions: 265¾×42½×18½ feet
Guns: 3—5·1 inch, 2—3 inch, 2 M.G.
Machinery: Triple expansion. 2 shafts. I.H.P.: 2,400=14 kts.
Complement: 160

Notes
Launched in 1938. In the Far East. Former minelayer converted into a surveying ship. Pennant No. G. 104.

EKVATOR (ex-*Meteor*)

Displacement: 1,200 tons
Dimensions: 219½×33½×12½ feet
Guns: 1—3·5 inch, 1 M.G.
Machinery: 2 sets 8-cyl 4-stroke Diesels. 2 shafts. B.H.P.: 2,200=14·5 kts.

Notes
Built by Kaiserliche Werft, Danzig. Launched on 18 Jan. 1915. Name means "Equator." Refitted in East Germany in 1957.

AZIMUT

Displacement: 420 tons
Dimensions: 144⅓×28½×11 feet
Machinery: Speed=11 kts.

Notes
Swedish built. Launched in 1914. Fitted with a reinforced stern for icebreaking.

GALS

Displacement: 540 tons
Dimensions: 121½×25×11 feet
Machinery: Triple expansion. I.H P.: 240=8 kts
Fuel: 45 tons coal

BAROGRAF

Displacement: 260 tons
Dimensions: 92×19×12½ feet
Machinery: Triple expansion. I.H.P.: 425=7·5 kts.
Complement: 19

ZENIT

Notes
Name means "Zenith." The very old surveying vessel *Trefolyer* is worn out (see full particulars and photograph in the 1957-58 and earlier editions).

REPAIR SHIPS

"Dnepr" Class

PM 17

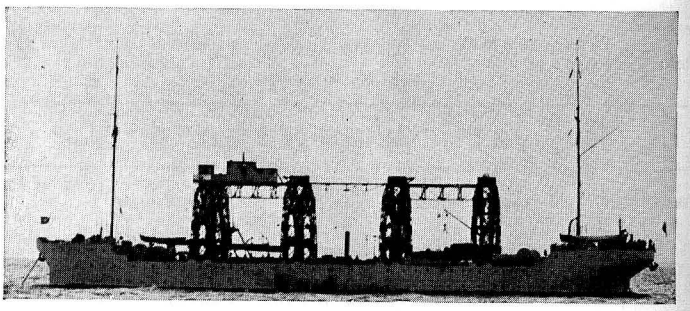
Displacement: *circa:* 4,000 tons

Notes
A new tender, or multi-purpose ship, equipped with workshops and repair facilities.

7 "Soldek" Class

INZA (ex-*Novoshaktinsk*) **KS 2** **TOVDA** (V 415)
KALAR (V 87) **KS 3** **V 360** (ex-*Zangezur*)
VYTEGRA (V 131)

Notes
Tovda is a "Soldek" class merchant ship converted into a repair ship at Kromstadt. *Inza* and *Vytegra* are also "Soldek" class conversions to repair ships. *Kalar*, *KS* 2, *KS* 3 and *V* 360 are "Soldek" class ships converted into cable repair ships, two in 1958 and two in 1960.



KOMMUNA *Added 1955*

KOMMUNA (ex-*Volkhov*)

Displacement: 2,400 tons
Machinery: Diesels. 2 shafts

Notes
Old submarine salvage vessel. Launched in 1913. Double hull. After having been out of commission for many years she was towed to Vlissingen by Russian tugs on 26 May 1950, to be refitted and modernised at De Schelde Yard, Flushing, Netherlands. Towed back to Russia in July 1951.

UMBA (ex-*Keret*)

Displacement: 1,400 tons
Dimensions: 195½ (*pp.*), 200 (*o.a.*)×30×12 feet
Guns: 5—54 mm. AA., 2 M.G.
Machinery: Triple expansion. I.H.P.: 825=10 kts.
Complement: 80

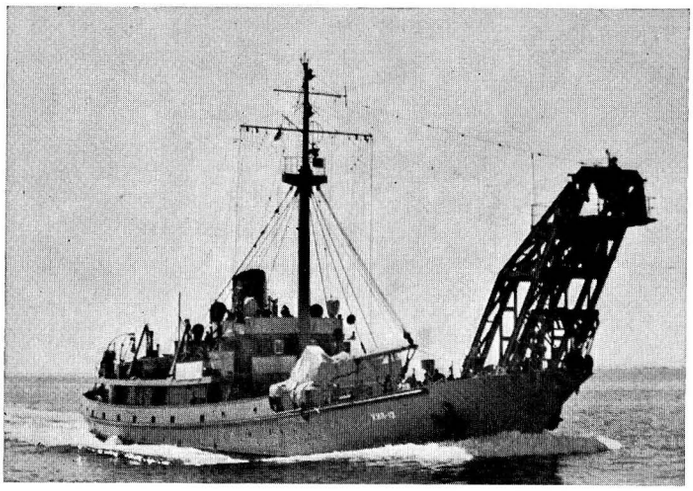
Notes
Launched in 1910.

ELBRUS

Displacement: 2,600 tons
Dimensions: 302×39×13½ feet
Guns: 2—3 inch, 1—45 mm. AA.
Machinery: Diesel-electric. H.P.: 2,800=13 kts.
Oil fuel: 180 tons
Complement: 150

Notes
In the Black Sea.

SALVAGE VESSELS



No. 13 1959, *Antonov Rogov*

" Prut " Class

MB 23
Displacement: 3,500 tons *approx.*

Notes
A new very large rescue ship with raked down flush deck and mainmast derrick.

3 Submarine Rescue Type

Notes
Three " T 58 " class fleet minesweeper hulls were completed as submarine rescue ships at Leningrad in 1961.

4 " Pamir " Class

AGATAN **ALDAN** **PAMIR**

Measurement: 1,443 tons *gross*
Dimensions: 219½ (*pp.*), 238⅓ (*o.a.*) × 38½ × 12 feet
Machinery: Two 10 cyl. 4 str. diesels. 2 shafts. B.H.P.: 4,200=17 kts.

Notes
New and modern salvage tugs built at A.B. Gävle Varv, Sweden, in 1959-60. Equipped with strong derricks, powerful pumps, air compressors, diving gear, fire fighting apparatus and electric generators.



MB 24 *Photo. A. Kull*

MB 24 **MB 25** **MB 26**

Displacement: 835 tons
Dimensions 134½ (*w.l.*), 143 (*o.a.*) × 34 × 15 feet
Guns: 1—3 inch d.p., 2—20 mm. AA.
Machinery: 2 B.M. diesels. 2 electric motors 2 shafts. B.H.P.: 1,875=14 kts.
Oil fuel: 187 tons
Complement: 34

Notes
Salvage and rescue tugs. Built by Levingstone Shipbuilding Co., Orange, Texas, U.S.A. Launched in 1944. Ex-United States ATAs (Ocean Rescue Tugs). In the Baltic.

SIGNAL
Displacement 680 tons
Machinery: Speed: 14 kts.

Notes
Launched in 1936. Fitted with powerful pumps and other apparatus for salvage. In the Baltic.
Other numbers reported are A 2, 480, 481, 490, 495, 515, 525, 580, 610, 612, 621 and 663. Salvage vessels are designated MSB.

TRANSPORTS

P-6 **P-7** **P-11** **P-13** **P-15** **P-35** **P-252** **P-368**

Notes
Transports of the above pennant numbers are reported, but no names.

KAMCHATKA **MONGOL**

Notes
" Lake " class. Pennant numbers P-380 and P-242, respectively

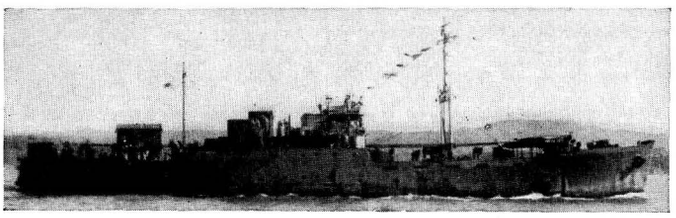
SHIM **OLEKMA** **SHILKA**
OB **OLGA** **USSURIJ** (ex-*Okhotsk*)
VISHERA

Notes
Pennant Nos. P-247 (*Ob*), P-250 (*Olekma*), P-274 (*Shilka*), P-365 (*Ussurij*), P-379 (*Vishera*). *Olekma* (also rendered as *Olenkna*) is ex-Japanese " Kisak " class. *Olga* and *Ishim* are Coast Guard transports.

Ex-**No. 13**
Displacement. 1,800 tons
Dimensions: 315 (*o.a.*) × 33⅓ × 12 feet
Guns: 2—[illegible] inch, 26—25 mm. AA., 5 M.G., 42 D.C.
Machinery: Turbine. S.H.P.: 9,500=22 kts.
Boilers: 2

Notes
Former Japanese. Cargo capacity 500 tons for landing 480 marines.

Transports—*continued*



HAYASAKI *Added 1953, Hajime Fukaya*

Ex-**HAYASAKI**
Measurement: 2,166 tons *gross*
Displacement: 950 tons
Dimensions: 190½ (*pp.*), 194⅔ (*w.l.*), 204½ (*o.a.*) × 30⅝ × 10½ feet
Guns: 1—3·1 inch, 2—25 mm., 2—13 mm. AA.
Machinery: 2 diesels. B.H.P.: 1,600=15 kts.

Note
Built at Sakurajama. Launched in 1943. Formerly the first Japanese refrigeration ship.

Ex-**No. 137**
Displacement: 1,129 tons
Dimensions: 264 (*o.a.*) × 30 × 10½ feet
Guns: 1—3·9 inch, 21—25 mm. AA., 12 D.C.
Machinery: Turbine. S.H.P.: 2,500=16 kts.

Notes
Former Japanese. Cargo capacity, 218 tons, plus 674 tons of fuel. Accommodation for 120 marines.

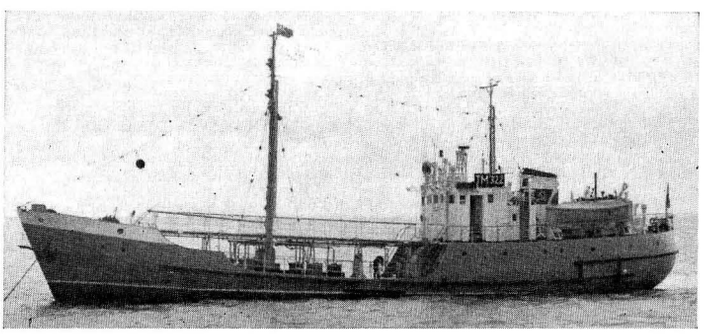
Ex-**MONTECUCCO** (ex-*KT 32*)
Measurement: 834·4 tons *gross*
Dimensions: 221¾ × 39½ × 9 feet
Machinery: Triple expansion. 2 shafts. I.H.P.: 2,200=12 kts.
Coal: 160 tons

Notes
Former Italian. Built by Ansaldo. Launched on 19 Dec. 1942. Ceded under the Peace Treaty. Delivered to Russia on 23 May, 1949.

Ex-**BASENTO** Ex-**ISTRIA** Ex-**LIRI** Ex-**POLCEVERA**

Notes
Small water carriers ceded under Italian Peace Treaty. *Volodei* was in very bad conditi in 1950 when she went for overhaul, and she is not worth further repairing.

FLEET OILERS



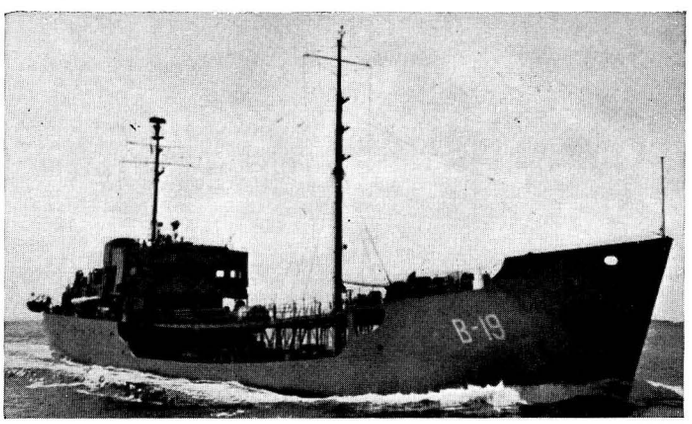
TM 322 1962, *courtesy Godfrey H. Walker, Esq.*

29 " Khobi " Class

Notes
Of this class 29 units are reported to have been built from 1957 to 1959.

Ex-**KÄRNTEN**
Measurement: 5,660 tons *gross*
Guns: 1—4·1 inch, 4—20 mm. AA.
Machinery: Speed: 12 kts.

Note
Ex-German tanker, now Fleet oiler. Illustration in the 1951-52 to 1959-60 editions.



V(B)-19 1959 *Sergei Romanov*

ALATYR **JAHROMA** **KRASNOFLOTETS** **ROSSOSH**
IRBIT **KRASNOARMEETS** **POLYARNIK**

Note
Pennant Nos.: P-393 (*Alatyr*), P-256 (*Irbit*), P-260 (*Polyarnik*), P-384 (*Rossosh*) and P-355 (*Krasnoflotets*). The latter is a Coast Guard tanker.

P-264 **P-268** **P-352** **P-380** **P-384**

Notes
Fleet oilers of the above numbers are reported, but no names.

KONDA **VOLKHOV**

Notes
Volkhov of Leningrad or *Kazbek* class taken over by the Navy as an oiler.

EREVAN
Displacement: 3,500 tons

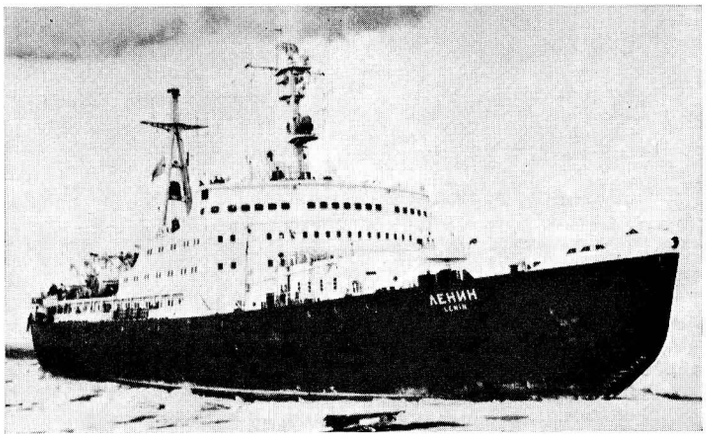
Notes
In the Far East. There is also ex-**STIGE**. Displacement: 1,343 tons. Dimensions: 173⅓ × 30½ × 13 feet. Guns: 1—4·7 inch, 1—3 inch AA., Machinery: Tosi diesel. B.H.P.: 650=7 kts. Petrol carrier, built at La Spezia, launched in 1924.

ICEBREAKERS

1 New Construction. Nuclear Powered

Displacement: 25,000 tons
Dimensions: 525 × 82 × 29 feet
Machinery: Nuclear reactors and steam turbines=25 kts.

Notes
Largest icebreaker ever designed. Nuclear powered. In the early stages of construction.



LENIN 1960

1 Large Nuclear Powered Type

LENIN

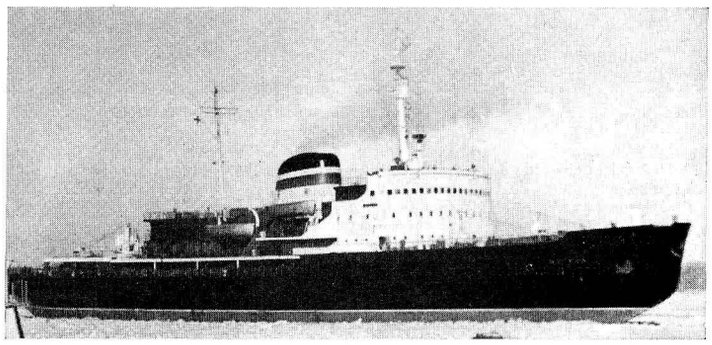
Displacement: 16,000 tons
Dimensions: 440 × 90½ × 25 feet
Aircraft: 2 helicopters
Machinery: 3 pressurised water cooled nuclear reactors and 4 steam turbines. 3 shafts (no shaft in bow). S.H.P.: 44,000=18 kts. (*max.*) (see *Engineering Notes*)

General Notes
The world's first nuclear powered surface ship to put to sea. Built at the Kirov Elektrosila Works, Leningrad. Launched on 2 Dec. 1957. Completed and commissioned on 15 Sep. 1959 when she sailed on her maiden voyage into the Baltic. Dimensions also reported as 425 (*o.a.*) × 85 feet and 435 × 89 feet. Reported to have accommodation for 1,000 personnel.

It is reported that this ship is actually a parent ship and support tender for the nuclear powered submarine flotilla.

Engineering Notes
The atomic reactors will enable her to steam for eighteen months without refuelling. The fuel consumption is reported to be only five ounces daily. The turbines were manufactured by the Kirov plant in Leningrad. There are three propellers aft, but no forward screw. The shaft horse power is also reported as 18,000 (normal cruising) and 56,000 (maximum).

Operational Notes
With her reinforced prow she is able to force a 100 ft. wide ice-free swathe and move continually through solid pack ice 8 feet thick at 3 to 4 knots.



MOSKVA 1960, *Wärtsilä-Koncernen A/B Sandvikens Skeppsdocka*

3 Large Diesel Powered Type

LENINGRAD **MOSKVA**

Displacement: 12,840 tons *standard*, 15,340 tons *full load*
Dimensions: 368¾ (*w.l.*), 400⅜ (*o.a.*) × 80½ × 31 (*normal*), 34½ (*max.*) feet
Machinery: Diesel-electric. 3 shafts. S.H.P.: 22,000=18·3 kts.
Oil fuel: 3,000 tons
Range: 20,000 miles

General Notes
Largest diesel-electric icebreakers in the world. Designed to stay at sea for a year without returning to base. Built by Wärtsilä-Koncernen A/B, Sandvikens Skeppsdocka, Helsinki. The concave dent in the ship's stern is a housing for the bow of a following vessel when additional power is required. There is a landing deck for helicopters and hangar space for two machines. *Moskva* was launched on 10 Jan. 1959 and completed in June 1960. *Leningrad* was laid down a few days after, launched on 24 Oct. 1959, and will be completed at the end of 1960. The third ship will be completed in 1962.

Engineering Notes
These three ships have eight generating units of 3,250 B.H.P. each comprising eight main diesel motors of the Wärtsilä-Sulzer 9 MH 51 type which together have an output of 26,000 electric H.P. Four separate machinery compartments. Two engine rooms, four propulsion units in each. Three propellors aft. No forward propeller. Centre propeller driven by electric motor of 11,000 H.P. and each of the side propellers by motors of 5.500 H.P. Two Wärtsilä-Babcock & Wilcox boilers.

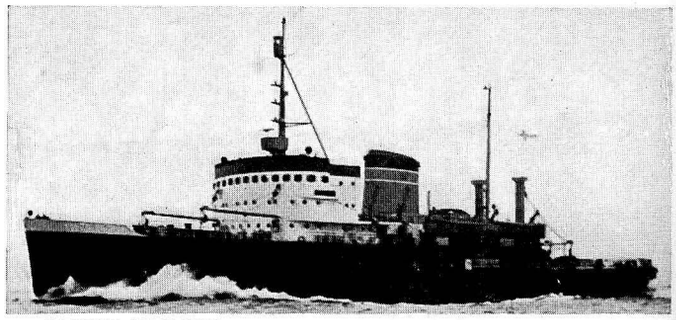
Operational Notes
Moskva has four pumps which can move 480 metric tons of water from one side to the other in two minutes to rock the icebreaker and wrench her free of thick ice.

POLLUKS (ex-*Pollux*)

Displacement: 4,500 tons
Dimensions: 262½ × 63 × 23 feet
Machinery: Triple expansion. I.H.P.: 6,000=13 kts.
Boilers: 4

Notes
Built in the Netherlands by Smit, Rotterdam, in 1943. It is not confirmed whether she has completely changed her German name.

Icebreakers—*continued*



KAPITAN BELOUSOV 1955

3 "Kapitan" Class

KAPITAN BELOUSOV **KAPITAN MELECHOV** **KAPITAN VORONIN**

Displacement: 4,375 to 4,415 tons
Dimensions: 265 (*w.l.*), 263 (*o.a.*) × 63⅜ (*max.*) × 23 feet
Machinery: Diesel-electric. 6 Polar 8 cyl. diesels. B.H.P.: 10,500=16·5 kts.
Oil fuel: 740 tons

Notes
Kapitan Belousov was laid down at the end of 1952 and completed in Sep. 1954. All built by Wärtsilä-Koncernen A/B, Sandvikens Skeppsdocka, Helsinki. The ships have four screws, two forward under the forefoot and two aft.

Name	*Measurement*	*Launched*	*Completed*
Kapitan Belousov	5,360 tons *gross*	1954	1955
Kapitan Melechov	4,000 tons *gross*	19 Oct. 1956	1957
Kapitan Voronin	3,416 tons *gross*	1955	1956

ALIOSHA POPOVICH (ex-German *Eisvogel*)

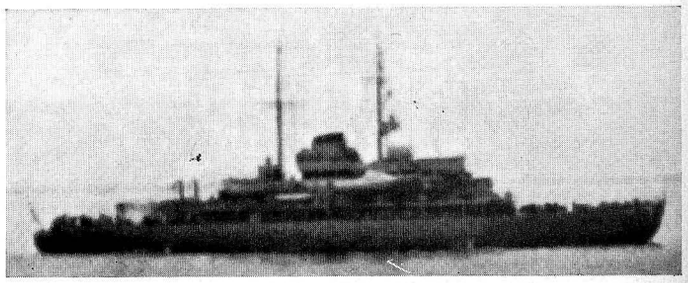
Displacement: 2,090 tons
Dimensions: 200 × 49½ × 21⅜ feet
Machinery: 2 Triple expansion. I.H.P.: 3,200=13·5 kts.
Boilers: 1

Notes
Former German icebreaker. Built by Aalborgs. Launched in 1941. In the White Sea. (*Purga*, ex-icebreaker, is reported to have been rearmed as an escort vessel.)

ILIYA MUROMETS (ex-German *Eisbar*)

Displacement: 1,918 tons
Dimensions: 180½ × 49½ × 21⅜ feet
Machinery: Triple expansion. I.H.P.: 1,600=15 kts.
Boilers: 1

Notes
Former German icebreaker. Built by Eriksberg, Gothenborg, and launched in 1941.

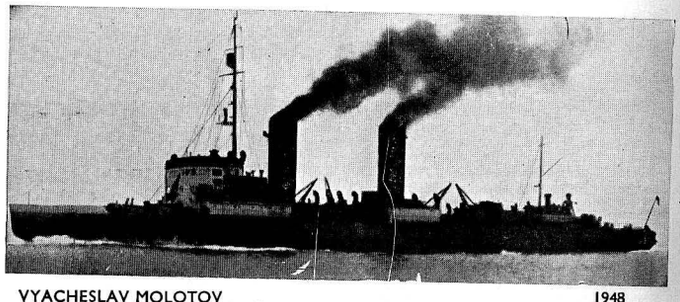


1959

PERESVET (ex-*Castor*)

Displacement: 5,150 tons
Dimensions: 295½ × 69 × 22 feet
Machinery: Triple expansion. 3 shafts. I.H.P.: 9,600=15 kts.
Boilers: 4 Wagner

Notes
Former German icebreaker. Built by Schichau, Danzig. Launched in 1939.



VYACHESLAV MOLOTOV 1948

4 "Stalin" Class

ADMIRAL LAZAREV (ex-*Yosif Stalin*) **LAZAR KAGANOVICH**
ADMIRAL MAKAROV (ex-*Vyacheslav Molotov*) **MIKOYAN** (ex-*Otto Schmidt*)

Displacement: 11,000 tons
Measurement: 4,866 tons *gross*
Dimensions: 335¾ (*pp.*), 351 (*o.a.*) × 75½ × 22 feet
Machinery: Triple expansion, with Diesel-electric propulsion for cruising. 3 shafts. H.P.: 10,050=15·5 kts.
Boilers: 9
Fuel: 4,000 tons coal, and diesel oil
Complement: 142

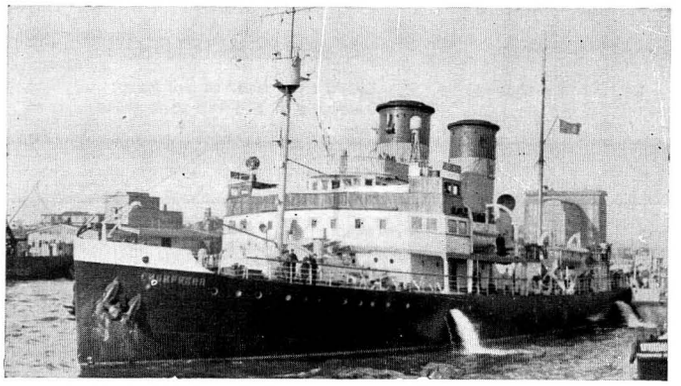
Notes
3 aircraft and 1 catapult were included in the design of these large and very powerful icebreakers. All are in the White Sea.

Name	*Builders*	*Launched*	*Completed*
Lazar Kaganovich	Baltic Works, Leningrad	30 Apr. 1937	1938
Mikoyan	Nikolayev	1938	1939
Admiral Makarov	Baltic Works, Leningrad	8 Mar. 1939	1940
Admiral Lazarev	Baltic Works, Leningrad	14 Aug. 1937	1939

Icebreakers—*continued*

SEVMORPUT
Displacement: 6,000 tons
Machinery: 3 shafts. Speed: 11·5 kts.

Notes
Icebreaker of medium size and low power. Built at Leningrad. Launched in May 1937.



SIBIRYAKOV 1954, *courtesy P. Bronsveld*

SIBIRYAKOV (ex-*Jääkarhu*)
Displacement: 4,825 tons
Dimensions: 246 × 63 × 21 feet
Machinery: Triple expansion. 3 shafts. I.H.P.: 9,200=15 kts.
Boilers: 8. Oil fuel

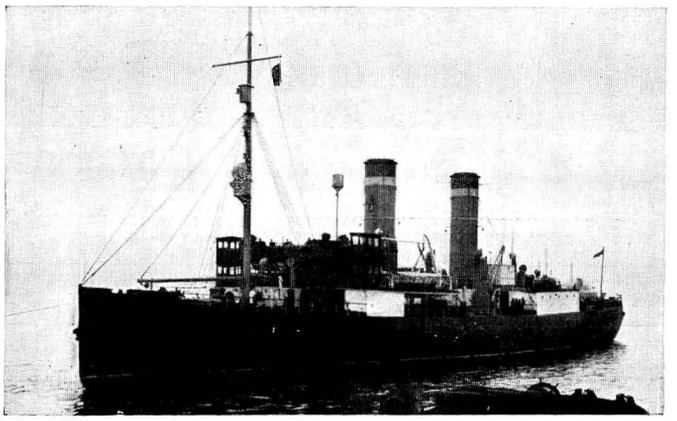
Notes
Built by Smit, Rotterdam, and launched in 1926. Formerly Finnish. (*Jääkarhu* means Icebear). Appropriated by Russia.

Ex-**KRISJANS VALDEMARAS**
Displacement: 2,800 tons
Measurement: 1,932 tons *gross*
Dimensions: 196½ × 55¾ × 22 feet
Machinery: Triple expansion. I.H.P.: 5,200=15 kts.
Fuel: 350 tons coal
Complement: 55

Notes
Built by Beardmore and launched in 1925. Renamed now. Formerly a Latvian ship. Photograph in the 1957-58 and earlier editions.

KRASSIN (ex-*Sviatogor*)
Displacement: 9,300 tons
Measurement: 4,902 tons *gross*
Dimensions: 297 (*w.l.*), 323¼ (*o.a.*) × 71 × 26 feet
Machinery: 3 sets triple expansion. 3 shafts. I.H.P.:10,000=15 kts.
Boilers: 10 single-ended
Fuel: 3,200 tons coal
Complement: 190

Notes
Large and powerful icebreaker. Built by Armstrong and launched in 1917. In the Baltic. Photograph in 1951-52 and earlier editions.



Ex-LENIN 1954, *Keith P. Lewis*

VLADIMIR ILYICH (ex-*Lenin*, ex-*Aleksandr Nevskii*)
Displacement: 6.260 tons
Measurement: 3,828 tons *gross*
Dimensions: 273 (*w.l.*), 281 (*o.a.*) × 64 × 19 (*mean*), 20½ (*max.*) feet
Machinery: 3 sets triple expansion. 3 shafts. I.H.P.: 8,000=12 kts.
Boilers: 8
Fuel: 1,200 tons coal
Complement: 122

Notes
Built by Armstrong. Launched in 1917. Refitted on the Mersey in 1946-47. In the Baltic.

MALYGIN (ex-*Voima*)
Displacement: 2,070 tons
Dimensions: 210¾ × 46½ × 16¾ feet
Machinery: Triple expansion. 1 shaft. I.H.P.: 4,100=13·5 kts.

Notes
Former Finnish icebreaker. Built by Sandvikens and launched in 1917. In the Baltic. Photograph in the 1957-58 and earlier editions.

STEPAN MAKAROV (ex-*Knyaz Pozharski*)
Displacement: 3,150 tons *standard*
Measurement: 2,156 tons *gross*
Dimensions: 236 (*pp.*), 248 (*o.a.*) × 57 × 22f eet
Machinery: Triple expansion. 3 shafts. I.H.P.: 6,400=14·5 kts.
Boilers: 6
Fuel: 700 tons coal

Notes
Built by Swan, Hunter and Wigham Richardson, Ltd., Wallsend-on-Tyne, and launched in 1916. In the Black Sea. Photograph in the 1951-52 and earlier editions.

DOBRINYA NIKITICH
Displacement: 2,460 tons *standard*
Measurement: 1,664 tons *gross*
Dimensions: 200 (*pp.*), 211 (*o.a.*) × 50½ × 20 feet
Machinery: Triple expansion. 2 shafts. I.H.P.: 4,000=14 kts.
Boilers: 6
Fuel: 370 tons coal

Notes
Built by Swan, Hunter and Wigham Richardson, Ltd., Wallsend-on-Tyne, and launched in 1916. In the Far East. Photograph in the 1957-58 and earlier editions.

Icebreakers—*continued*

VOLYNETS (ex-*Suur Töll*, ex-*Vainamoinen*, ex-*Volynets*, ex-*Tsar Mikhail Fyodorovich*)
Displacement: 4,000 tons
Dimensions: 236½ × 57 × 18¾ feet
Machinery: 3 sets triple expansion. 3 shafts. I.H.P.: 5,800=13·5 kts.
Fuel: 800 tons coal

Notes
Former Estonian icebreaker. Launched in 1914. In the Baltic. Photograph in the 1957-58 and earlier editions.

SADKO (ex-*Lintrose*)
Displacement: 2,000 tons
Measurement: 1,613 tons *gross*
Dimensions: 255 × 37½ × 21 feet
Machinery: Triple expansion I.H.P.: 3,500=14 kts.
Boilers: 4

Notes
Built by Swan, Hunter and Wigham Richardson, Ltd., Wallsend-on-Tyne, and launched in 1913. Transferred from the Canadian Government Service in 1915. This ship was sunk during the First World War off the Arctic coast of Russia where she lay for many years until she was raised and refitted. In the White Sea. Photograph in the 1957-58 and earlier editions.

FYODOR LITKE (ex-*Kanada*, ex-*Earl Grey*)
Displacement: 3,400 tons
Measurement: 2,216 tons *gross*
Dimensions: 250 (*pp.*), 265 (*o.a.*) × 48 × 17¾ (*mean*), 22½ (*max.*) feet
Machinery: Triple expansion. 2 shafts. I.H.P.: 6,000=17· kts.

Notes
Built by Vickers and launched in 1909. Transferred from the Canadian Government Service in 1915. Refitted on the Mersey in 1947-48. In the White Sea. Photograph in the 1951-52 and earlier editions.

TAIMYR
Displacement: 1,290 tons *standard*
Machinery: Speed: 10·5 kts.

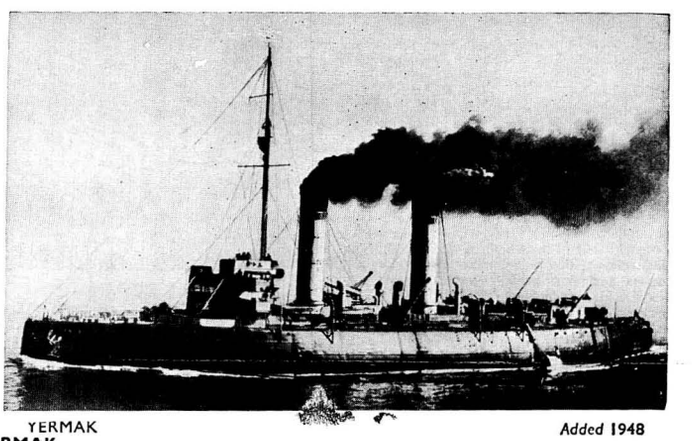
Notes
Small and low powered icebreaker. Launched in 1909. In the White Sea. Photograph in the 1951-52 and earlier editions.

GEORGII SEDOV (ex-*Beothic*) **VLADIMIR RUSANOV** (ex-*Bonaventure*)
Displacement: 3,217 tons
Measurement: 1,383-1,588 tons *gross*
Dimensions: 240½ × 36 × 16½ feet
Machinery: Triple expansion. I.H.P.: 3,000=13·5 kts.
Fuel: 500 tons coal

Notes
Built in 1909, by D. & W. Henderson & Co. and by Napier & Miller, respectively. Both purchased in 1915. In the White Sea. In 1939 *Georgii Sedov* achieved a record latitude in her ice-bound drift northward.

MONTCALM
Measurement: 3,270 tons
Measurement: 1,432 tons *gross*
Dimensions: 245 × 40½ × 15¾ feet
Machinery: 2 sets triple expansion. 2 shafts. I.H.P.: 3,225=14 kts.
Boilers: 4 Babcock & Wilcox
Fuel: 425 tons coal

Notes
Built by Napier & Miller and launched in 1904. Transferred from the Canadian Government Service in 1942. In the Far East. It is doubtful if this ship is still operating.



YERMAK *Added* 1948

YERMAK
Displacement: 8,800 tons
Measurement: 4,955 tons *gross*
Dimensions: 305 (*pp.*), 320 (*o.a.*) × 71½ × 25 (*mean*), 28 (*max.*) feet
Machinery: 3 sets triple expansion. 3 shafts aft and 1 forward. I.H.P. 9,500=14 kts.
Boilers: 10 S.E.
Fuel: 2,100 tons coal
Complement: 112

Notes
Built by Armstrong and launched in 1898. Name is that of the conqueror of Siberia. Refitted in Antwerp in 1949-50. In the Baltic. This ship is now very elderly and may be scrapped in the near future.

General Notes
The majority of the above icebreakers are immensely strong in framing and scantlings, with exceptionally thick plating, and decks strengthened to permit guns being mounted in wartime.

Recent Disposals
The very old and small icebreaker *Davidov* (ex-*Krasnyi Oktyabr*, ex-*Nadyazhnyi*) is being discarded and replaced by a newer icebreaker.

FLEET TUGS

DUNAJ	**NAEZDNIK**	**TEREK**	**TETYUHKE**	**ZOLOTOI**

Notes
Pennant Nos. A 486, A 624, A 515, A 495 and A 612, respectively.

MB V-48	**MB V-72**	**MB V-118**	**MV B-146**
	MB V-75	**MB V-125**	**MB V-149**

Notes
All seagoing tugs are designated MB. Photograph in the 1959-60 edition.

CHF 1	**CHF 4**	**CHF 7**	**CHF 10**	**CHF 13**	**CHF 16**
CHF 2	**CHF 5**	**CHF 8**	**CHF 11**	**CHF 14**	**CHF 17**
CHF 3	**CHF 6**	**CHF 9**	**CHF 12**	**CHF 15**	**CHF 18**
					CHF 19

Notes
Letters painted on bows are initial letters of "Chernomorskii Flot," meaning "Black Sea Fleet." A photograph of CHF 19 appears in the 1959-60 edition.

MOROZ (ex-*Soldat*). Photograph in the 1959-60 edition.

General Notes
Under the Peace Treaty with Italy 8 large tugs, *Vigoroso*, *Capo d'Istria*, *Lampedusa*, *Rappallo*, *Porto Adriano*, *San Angelo*, *Talamone* and *Tifeo* were to be ceded.

KAPITAN V. FEDETOV

VENEZUELA

Administration

Commander General of the Navy:
(Chief of Naval Operations)
Contralmirante Ricardo Sosa Rios.

Chief of Naval Staff:
Contralmirante Daniel Gámez Calcaño.

Venezuelan Naval Attaché in London:
Captain Armando de Pedraza Pereira.

Planned New Construction

Programme includes 1 cruiser, 2 to 4 submarines and several minesweepers.

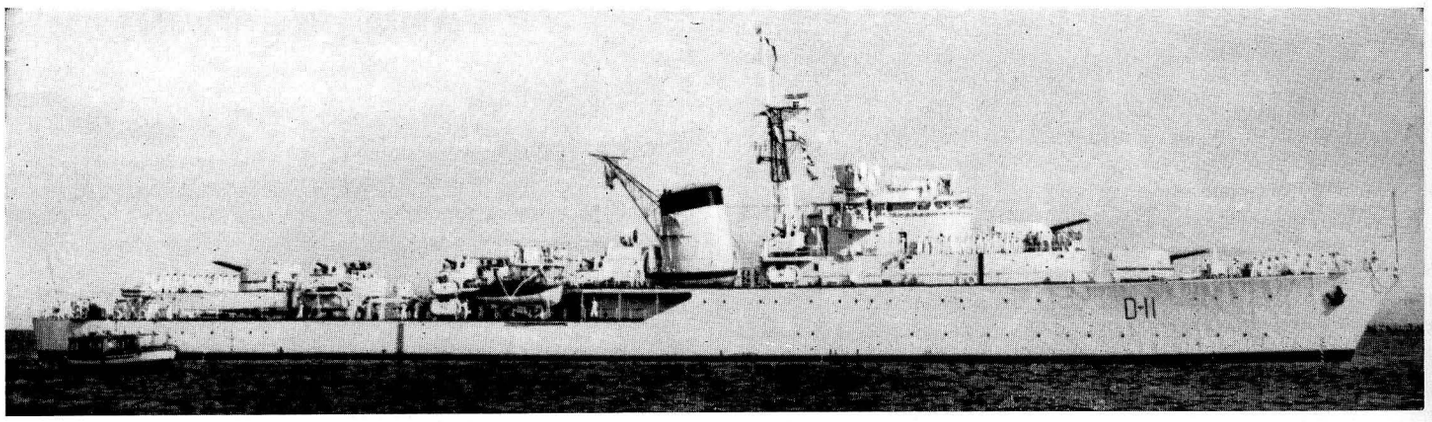
Personnel

1962: 3,200 naval officers and men and 2,500 Marine Corps

Mercantile Marine

Lloyd's Register of Shipping:
90 vessels of 324,448 tons *gross*

DESTROYERS



NUEVA ESPARTA

1962, *Venezuelan Navy, Official*

3 British Vickers-Built "Nueva Esparta" Class

ARAGUA — NUEVA ESPARTA — ZULIA

Displacement:	2,600 tons *standard* (3,300 tons *full load*)
Dimensions:	402 (*o.a.*) × 43 × 12¾ (*max.*) feet
Guns:	6—4·5 inch (twin), 16—40 mm. (twin)
Tubes:	3—21 inch
A/S weapons:	2 D.C.T., 2 D.C. racks. Squids in *Nueva Esparta* and *Zulia*, see *Notes*
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 50,000 = 34·5 kts.
Boilers:	2
Complement:	18 officers, 236 men

Notes

All built in Great Britain by Vickers-Armstrongs, Barrow-in-Furness. *Nueva Esparta* and *Zulia* were ordered in 1950. Cost of these first two ships was £5,000,000. Air conditioned throughout, comprehensive electrical system. Two engine rooms and two boiler rooms served by a single uptake. The 4·5 inch guns are fully automatic. Ships are very spacious and roomy. *Nueva Esparta* and *Zulia* were refitted at the Palmers Hebburn Works of Vickers Armstrong (Shipbuilders) Ltd. in May—Dec. 1959, and modernised at the New York Navy Yard in 1960 to improve their ASW and AA capabilities. *Aragua* was refitted in 1962.



ZULIA

Added 1957, Wright & Logan

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
D 31	*Aragua*	29 June 1953	27 Jan. 1955	14 Feb. 1956
D 11	*Nueva Esparta*	24 July 1951	19 Nov. 1952	8 Dec. 1953
D 21	*Zulia*	24 July 1951	29 June 1953	15 Sep. 1954

FAST FRIGATES

(Light Destroyer Type) 6 Italian Ansaldo Built "Almirante Clemente" Class

ALMIRANTE CLEMENTE
ALMIRANTE JOSÉ GARCIA
ALMIRANTE BRION
GENERAL JOSÉ DE AUSTRIA
GENERAL JOSÉ TRINIDAD MORAN
GENERAL JUAN JOSÉ FLORES

Displacement:	1,300 tons *standard* (1,550 tons *full load*) officially revised figures
Dimensions:	320½ (*o.a.*) × 35½ × 8½ feet
Guns:	4—4 inch (102 mm.) AA. in two twin turrets, 4—40 mm. AA., 8—20 mm. AA.
Tubes:	3—21 inch
A/S weapons:	2 Hedgehogs or squid, 4 D.C.T.
Machinery:	2 sets geared turbines. 2 shafts. S.H.P.: 25,000 = 34 kts. (officially revised figures)
Boilers:	2 Foster Wheeler
Oil fuel:	350 tons
Radius:	3,500 miles at 17 kts. (officially revised figures)
Complement:	162 (12 officers, 150 men)

General Notes

All built in Italy by Ansaldo, Leghorn. First three ordered 1953. Three more ordered in 1954. Aluminium alloys were widely employed in the building of all superstructure. All the ships are fitted with Denny-Brown fin stabilisers and air conditioned throughout the living and command spaces.

Almirante Jose Garcia, *Almirante Brion* and *General Jose de Austria* were refitted by Anslado, Leghorn, in 1962 to improve their ASW and AA capabilities.



GENERAL JOSÉ TRINIDAD MORAN

1962, *Venezuelan Navy, Official*

Pen. No.	*Name*	*Laid down*	*Launched*	*Completed*
D 12	*Almirante Clemente*	5 May 1954	12 Dec. 1954	1956
D 22	*General Jose Moran*	5 May 1954	12 Dec. 1954	1956
D 13	*General Juan Flores*	5 May 1954	7 Feb. 1955	1956
D 33	*Almirante Garcia*	12 Dec. 1954	12 Oct. 1956	1957
D 23	*Almirante Brion*	12 Dec. 1954	4 Sep. 1955	1957
D 32	*General de Austria*	12 Dec. 1954	15 July 1956	1957

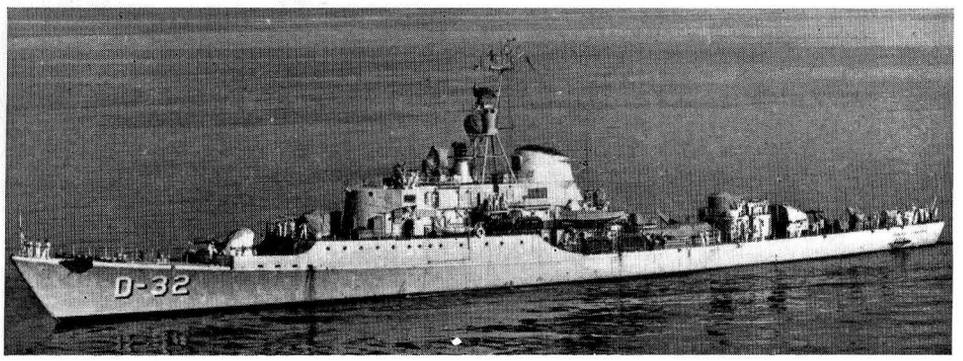
Fast Frigates—*continued*

" Almirante Clemente " Class —*continued*

Gunnery Notes
The 4 inch anti-aircraft guns are fully automatic radar controlled.

Photograph Notes
Photographs of *Almirante Clemente* and *General Jose Trinidad Moran* appear in the 1957-58 edition, of *General Juan Jose Flores* in the 1957-58 to 1961-62 editions, and of *Almirante Garcia* in the 1958-59 to 1961-62 editions.

Disposals of " Flower " Class
Of the former Canadian " Flower " type corvettes or frigates, *Carabobo* (ex-*Kamsack*) was lost on passage from Canada, *Libertad* (ex-*Battleford*) ran aground off western Venezuela on 12 Apr. 1949 and was discarded, *Independencia* (ex-*Dunvegan*) was stricken in 1953, *Federacion* (ex-*Amherst*) was stricken in 1956, and *Constitucion* (ex-*Algoma*), *Patria* (ex-*Oakville*) and *Victoria* (ex-*Wetaskiwin*) were officially deleted from the Navy List in 1962.



GENERAL JOSÉ DE AUSTRIA — 1962, *Venezuelan Navy, Official*

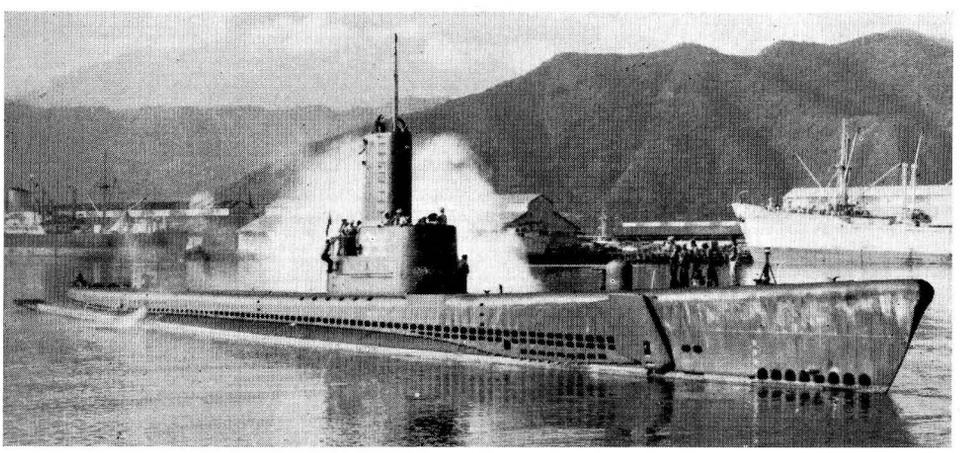
SUBMARINE

1 Ex-U.S. " Balao " Class

CARITE (ex-U.S.S. *Tilefish*, SS 307)

Pennant No.:	S 11
Builders:	Mare Island Naval Shipyard, California
Launched:	25 Oct. 1943
Commissioned:	28 Dec. 1943
Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	312 (*o.a.*) × 27 × 17 feet
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	Diesels. 2 shafts. B.H.P.: 6,400 = 20 kts. (*surface*). Electric motors. H.P.: 4,600 = 10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	80

Notes
Former United States submarine of the " Balao " class. Purchased by Venezuela in 1960 after a 3—4 month overhaul in the United States. Transferred from the U.S. Navy at San Francisco on 4 May 1960. Overhauled in San Francisco Navy Yard in 1962.



CARITE — 1962, *Venezuelan Navy, Official*

PATROL VESSELS



PC Type — *Added* 1962, *United States Navy, Official*

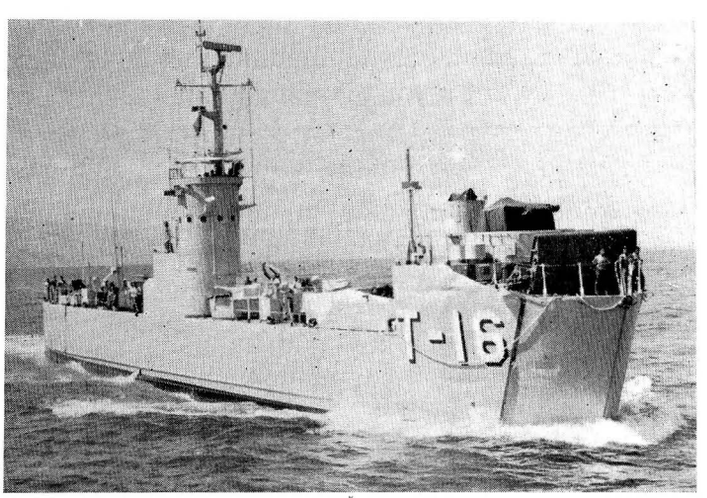
12 Ex-U.S. PC Type

MEJILLON P 01

Displacement:	280 tons *standard* (430 tons *full load*) officially revised figures
Dimensions:	170 (*w.l.*), 173⅔ (*o.a.*) × 23 × 6½ (*light*), 7½ (*mean*), 10¾ (*max.*) feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm. AA.
A/S weapons:	Provision for 4 D.C.T.
Machinery:	2 Fairbanks Morse 2-stroke diesels. 2 shafts. B.H.P.: 2,800 = 20 kts.
Complement:	65

Notes
Mejillon was refitted and overhauled by Diques y Astilleros Nacionalis, Venezuela, prior to commissioning in the Venezuelan Navy. It is officially stated that two more ships of this type are undergoing similar preparation to join the fleet in 1962. Altogether twelve of these former United States submarine chasers of the steel-hulled " 173 ft." type were purchased from the U.S.A. in Oct. 1960 for anti-smuggling patrols, namely:—*Cooperstown*, PC 484, *Dalhart*, PC 619, *Edenton*, PC 1077, *Gilmer*, PC 565, *Honesdale*, PC 566, *Larchmont*, PC 487, *Lenoir*, PC 582, *Minden*, PC 1176, *Paragould*, PC 465, *Rolla*, PC 483, *Tarrytown*, PC 1252, and *Tooell*, PC 572, and with these the Navy is assuming Coast Guard functions.

MEDIUM LANDING SHIPS



LOS TESTIGOS — 1962, *Venezuelan Navy, Official*

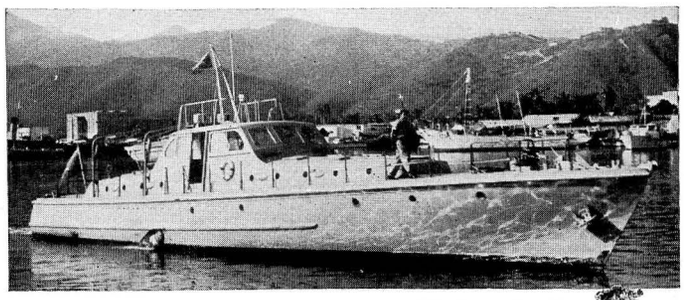
Ex-U.S. LSM Type

LOS FRAILES T 15 (ex-U.S.S. *LSM* 544) **LOS ROQUES** T 14 (ex-U.S.S. *LSM* 543)
LOS MONJES T 13 (ex-U.S.S. *LSM* 548) **LOS TESTIGOS** T 16 (ex-U.S.S. *LSM* 545)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8½ (*max.*) feet
Guns:	1—40 mm. AA., 4—20 mm. AA.
Machinery:	Diesel, direct drive. 2 shafts. B.H.P.: 2,800 = 12 kts.
Complement:	59

Notes
All built by Brown Shipbuilding Co., Houston, Texas, in 1945. (The former United States medium landing ships LSM 370, LSM 542, LSM 543, LSM 544, LSM 545 and LSM 548 were sold to Venezuela under MAP in Aug. 1958, but only the latter four have been commissioned in the Venezuela Navy to date.)

COAST GUARD VESSELS



RIO CABRIALES 1956, *Venezuelan Navy, Official*

RIO APURE **RIO CABRIALES** **RIO GUARICO** **RIO NEVERI**
RIO ARAUCA **RIO CARONI** **RIO NEGRO** **RIO TUY**

Displacement: 38 tons
Dimensions: 82 × 15 × 4 feet
Machinery: 2 Mercedes-Benz M.B. 820 Bb diesels. 1,400 r.p.m. B.H.P.: 1,350 = 27 kts., 24—25 kts. cruising

Notes
All built by the Chantiers Navales de l'Estareles, Cannes, during 1954-56.

RIO SANTO DOMINGO

Displacement: 40 tons
Dimensions: 70 × 15 × 6 feet
Machinery: 2 General Motors. B.H.P.: 1,250

RIO TURBIO

Displacement: 40 tons
Dimensions: 81½ × 15 × 7½ feet
Machinery: 4 General Motors. B.H.P.: 880

GOLFO DE CARIACO

Displacement: 37 tons
Dimensions: 65 × 18 × 9 feet

Notes
The survey launch *Torbes*, and the repair launch *BT 1* were officially stricken from the list in 1962. *Caribe* was scrapped in 1956.

MOTOR LAUNCH

TORBES LA 12 (ex-*Felipe Santiago Esteves*, LC 12, ex-*Brion*, CS 2)

Displacement: 47 tons
Dimensions: 83 × 16 × 4 feet
Guns: 1—20 mm., 4 D.C.T.
Machinery: 2 petrol engines. 2 shafts. B.H.P.: 1,200 = 15 kts.
Complement: 10

Notes
Launched in 1937. Ex-U.S. Coast Guard cutter 56196. Acquired in 1944. Of wooden construction. *Brion* was renamed *Felipe Santiago Esteves* in 1957 when LC pennant number was allocated and renamed *Torbes*, No. LA 12, in 1962. *Antonio Diaz*, LC 11 (ex-CS 1, ex-56193), *Arismendi*, LC 14 (ex-CS 4, ex-56194) and *Briceno Mendez*, LC 13 (ex-CS 3, ex-56195) were stricken in 1960. A photograph of *Briceno Mendez* appears in the 1952-53 to 1960-61 editions.

TRANSPORTS

3 New Construction

Displacement: *circa* 3,000 tons
Machinery: Speed: 17 kts.

Notes
Small troop carriers built by the Uraga Dock Co., Uraga, Japan, for Venezuela in 1958.



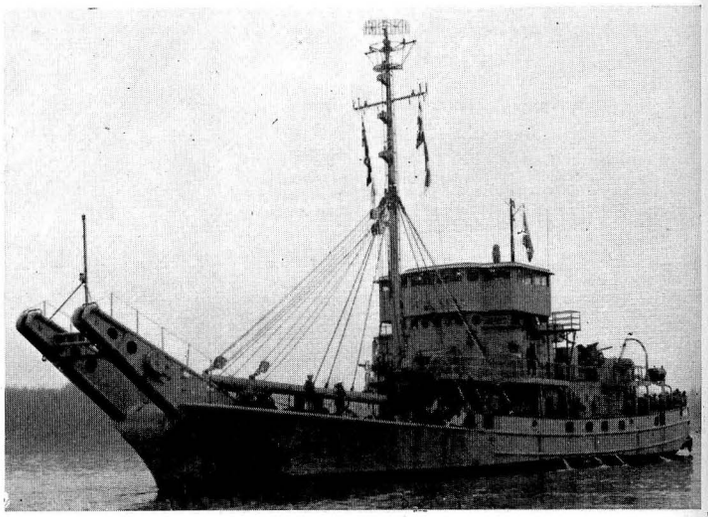
LAS AVES 1956, *Venezuelan Navy, Official*

LAS AVES (ex-*Dos de Diciembre*) T-12

Displacement: 944 tons
Dimensions: 234¼ (*o.a.*) × 33½ × 10 feet
Machinery: 2 diesels. B.H.P.: 1,600 = 15 kts.
Radius: 2,250 miles

Notes
Launched by Chantiers Dubigeon, Nantes-Chantenay, France, in 1954. Light transport for naval personnel. Originally named *Dos de Diciembre*. Redesignated *T 12* in 1958. Renamed *Las Aves* in 1961.

SURVEY VESSEL



PUERTO SANTO 1962, *Venezuelan Navy, Official (U.S. Coast Guard Photo)*

Ex-U.S. AN Type

PUERTO SANTO (ex-U.S.S. *Marietta*, AN 82)

Displacement: 650 tons *standard* (785 tons *full load*)
Dimensions: 146 (*w.l.*), 168½ (*o.a.*) × 33⅝ × 10⅝ (*max.*) feet
Machinery: Busch-Sulzer diesel-electric. 1 shaft. B.H.P.: 1,500 = 12 kts.
Complement: 46

Notes
Former United States netlayer of the " Cohoes " class. Built by Commercial Iron Works, Portland, Oregon. Laid down on 17 Feb. 1945 and launched on 27 Apr. 1945. Transferred on loan from the U.S. Navy in Jan. 1961 under MAP and converted into a hydrographic survey vessel and buoy tender by the United States Coast Guard Yard, Curtis Bay, Maryland, in Feb. 1962. The ship is unarmed, but she originally carried one 3-inch, 50 cal. dual purpose gun. Pennant No. H 01.

REPAIR SHIP

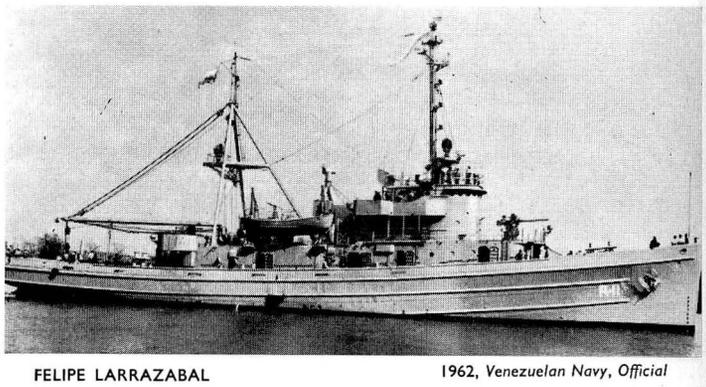
1 Ex-U.S. ARL (ex-LST) Type

QUIRINUS ARL 39 (ex-U.S.S. *LST* 1151)

Displacement: 1,625 tons *light*, 3,960 tons *trials* (4,100 tons *full load*)
Dimensions: 316 (*w.l.*), 328 (*o.a.*) × 50 × 11¼ (*max.*) feet
Guns: 8—40 mm. AA. (two quadruple mountings)
Machinery: General Motors diesels. 2 shafts. B.H.P.: 1,800 = 11·6 kts.
Complement: 21 officers, 232 men

Notes
Former United States landing craft repair ship. Built by Chicago Bridge and Iron Co., Seneca, Illinois. Laid down on 3 Mar. 1945. Loaned to Venezuela in June 1962.

TUGS



FELIPE LARRAZABAL 1962, *Venezuelan Navy, Official*

FELIPE LARRAZABAL (ex-U.S.S. *Tolowa*, ATF 116)

Displacement: 1,235 tons *standard* (1,675 tons *full load*)
Dimensions: 195 (*w.l.*), 205 (*o.a.*) × 38½ × 12 (*mean*), 15½ (*max.*) feet
Guns: 1—3 inch, 4—40 mm. AA., 2—20 mm. AA.
Machinery: 4 sets diesels with electric drive. B.H.P.: 3,000 = 16.5 kts.
Complement: 85

Notes
Former United States fleet ocean tug of the " Apache " class. Built by United Engineering Co., Alameda, California. Laid down on 28 July 1943, launched on 17 May 1944, and completed on 26 Dec. 1944. Transferred on loan from the U.S. Navy in Feb. 1962. Pennant No. R 11. The former tug *Felipe Larrazabal* (ex-U.S.S. *Discoverer*, ex-U.S.C.G. *Auk*, AM 38) was stricken in 1962.

FERNANDO GOMEZ (ex-U.S.S. *Dadley*, YMT 744, ex-*Diana*, ex-U.S. Army ST 873)

Displacement: 161 tons
Dimensions: 80 × 19 × 8 feet
Machinery: Clark Diesel, 6-cylinder, 315 r.p.m. B.H.P.: 380 = 15 kts.
Complement: 10

Notes
Pennant No. R 12. Photograph in the 1957-58 edition. (The tugs *Esteban Rojas*, *Diana* and *Caracas* were stricken from the list in 1958.)

VIETNAM

Administration

Chief of Naval Operations:

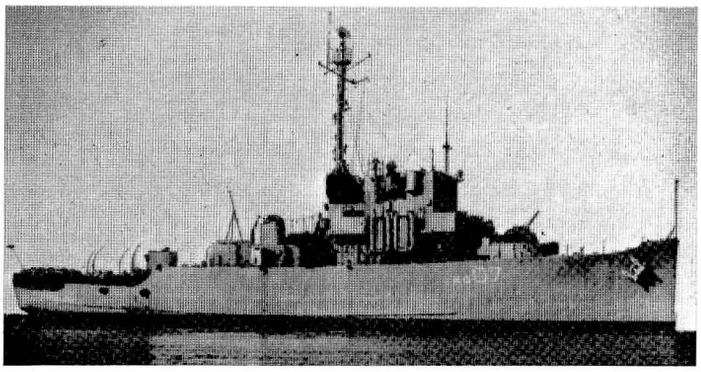
Commander Ho Tan Quyen

The Vietnamese Navy (Hai-Quân Viet-Nam) was established on 1 Jan. 1955.

Personnel

1962: 12,000 officers and non-commissioned personnel (including Marine Corps)

ESCORTS



DONG DA II — 1962, *Vietnamese Navy, Official*

U.S. PCE Type

DONG DA II HQ 07 (ex-U.S.S. *Crestview*, *PCE* 895)

Displacement:	640 tons *standard* (903 tons *full load*)
Dimensions:	180 (*w.l.*), 184½ (*o.a.*) × 33 1/12 × 9½ feet
Guns:	1—3 inch, 50 cal. d.p.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 2,000 = 15·7 kts.
Complement:	9 officers, 90 men

Notes

Former United States escort of the " 180 ft." PCE type. Built by the Willamett Iron and Steel Corporation, Portland, Oregon. Laid down on 2 Dec. 1942, launched on 18 May 1943, and completed on 30 Oct. 1944. Served successively in the U.S. Navy as escort vessel, submarine chaser, weather ship, naval reserve training ship, and operational anti-submarine warfare development and equipment evaluation ship. Transferred from the U.S. Navy to the Vietnamese Navy at Philadelphia Naval Base on 29 Nov. 1961 and renamed *Dong Da II*.

U.S. MSF Type

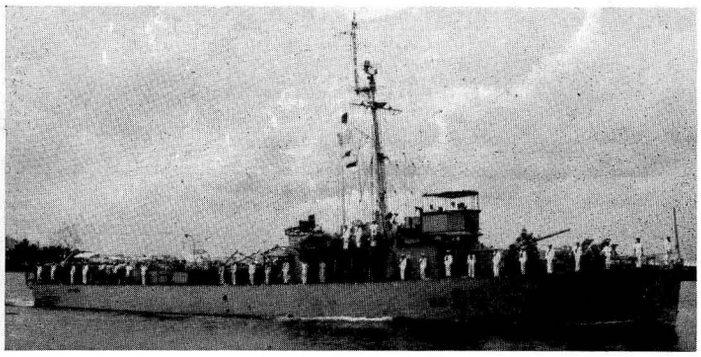
CHI LANG II HQ 08 (ex-U.S.S. *Gayety*, *MSF* 239)
HQ 09 (ex-U.S.S. *Sentry*, *MSF* 299)

Displacement:	650 tons *standard* (945 tons *full load*)
Dimensions:	180 (*w.l.*), 184½ (*o.a.*) × 33 × 9¾ feet
Guns:	1—3 inch, 50 cal. d.p., 2—40 mm. AA., 8—20 mm. AA. (four twin mountings)
A/S weapons:	2 D.C.T.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,710 = 14·8 kts.
Complement:	11 officers, 93 men

Notes

Former United States steel-hulled fleet minesweepers of the medium MSF (ex-AM) type. Both built by the Winslow Marine Railway and Shipbuilding Company, Winslow, Washington. Laid down on 14 Nov. 1943 and 23 Nov. 1942, launched on 19 Mar. 1944 and 20 Feb. 1943, and completed on 23 Sep. 1944 and 22 Jan. 1944, respectively. *Gayety* was transferred from the U.S. Navy to the Vietnamese Navy in June 1962 under the Military Aid Program, and renamed *Chi Lang II*. *Sentry* was converted into a patrol vessel by the Sun Shipbuilding and Dry Dock Company, Chester, Pennsylvania, the minesweeping gear having been replaced by increased depth charge storage, and transferred in Aug. 1962 under MAP.

PATROL VESSELS



VAN DON — 1962, *Vietnamese Navy, Official*

U.S. PC Type

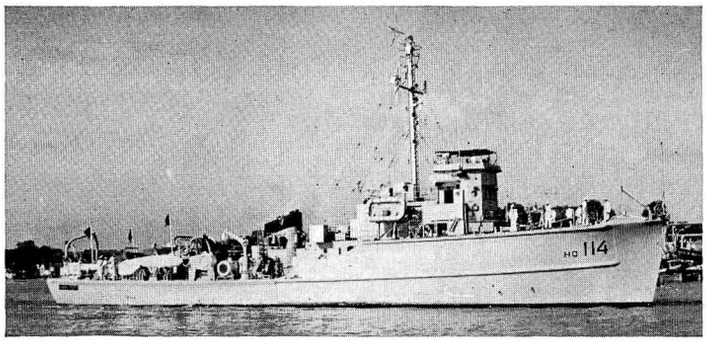
TAY KET (ex-*Glaive*, ex-*PC* 1143)
TUY DONG (ex-*Trident*, ex-*PC* 1146)
VAN DON (ex-U.S.S. *Anacortes*, PC 1569)
VAN KIEP (ex-*Intrepide*, ex-*PC* 1130)

Displacement:	280 tons (430 tons *full load*)
Dimensions:	170 (*w.l.*), 173⅜ (*o.a.*) × 23 × 6½ feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm. AA., 2 D.C., 2 R.L.
Machinery:	Diesel. 2 shafts. B.H.P.: 2,800 = 20 kts.
Complement:	5 officers, 61 men

Notes

Tay Ket, *Tuy Dong* and *Van Kiep* are former French *escorteur cotiers* transferred to the Vietnamese Navy in 1956. Pennant Nos. HQ 04, 05, 06, 02, respectively. *Dong Da* (ex-French *Ardent*, ex-*PC* 1167) was stricken in 1961 and *Chi Lang* (ex-French *Mousquet*, P 633, ex-U.S.S. *PC* 1144) decommissioned in 1962, their names having been allocated to larger vessels. *Van Don*, built in 1945, was transferred at Seattle, Washington, under MAP on 23 Nov. 1960.

COASTAL MINESWEEPERS



HAM TU II — 1960, *Vietnamese Navy, Official*

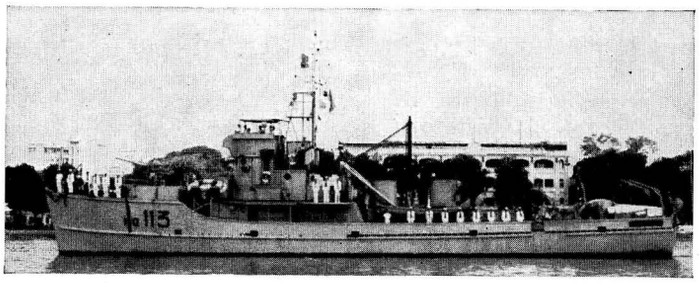
U.S. MSC Type

HQ 114 HAM TU II (ex-*MSC* 281) **HQ 115 CHU'O'NG-DU'O'NG II** (ex-*MSC* 282)
HQ 116 BACH DANG II (ex-*MSC* 283)

Displacement:	320 tons *standard* (370 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 28 × 9 feet
Guns:	2—20 mm. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,200 = 14 kts.

Notes

New construction United States coastal motor minesweepers of the " Bluebird " class, non-magnetic type, of wooden construction, transferred under the Mutual Defense Assistance Program in 1959 and 1960.



BACH DANG — 1960, *Vietnamese Navy, Official*

U.S. YMS Type

HQ 113 BACH DANG (ex-*Belledone*, ex-*D* 318, ex-*YMS* 78)
HQ 112 CHU'O'NG-DU'O'NG (ex-*Digitale*, ex-*D* 326, ex-*YMS* 83)

Displacement:	232 tons *standard* (270 tons *full load*)
Dimensions:	134½ × 24½ × 12 feet
Guns:	1—3 inch, d.p., 2—20 mm. AA., 2 M.G.
Machinery:	2 sets Diesels. B.H.P.: 1,000 = 15 kts.

Notes

Transferred from French Navy 11 Feb. 1954. Vietnam names are those of three naval victories won during the thirteenth century by the Vietnam Navy of that time against Chinese invading forces. *Ham Tu*, HQ 111 (ex-*Aubepine*, ex-*D* 315, ex-*YMS* 28) was removed from the effective list in 1958.

Recent Disposals

The coastal patrol craft HQ 600 (ex-*GC* 8) and HQ 601 (ex-*GC* 7, ex-*SC* 1020) were removed from the effective list in 1960.

MOTOR GUNBOATS

U.S. PGM Type

PGM 59	**PGM 61**	**PGM 63**	**PGM 65**	**PGM 67**
PGM 60	**PGM 62**	**PGM 64**	**PGM 66**	**PGM 68**

Displacement:	143 tons *full load*
Dimensions:	101 (*o.a.*) × 21 × 6 feet
Guns:	40 mm. AA.
Machinery:	Diesels. B.H.P.: 950

Notes

Building in the United States, five by J. M. Martinac Shipbuilding Corporation, Tacoma, Washington, and five by Marinette Marine Corporation, Marinette, Wisconsin, for transfer to Vietnam under the Military Aid Programme.

SURVEY VESSEL

U.S. FS Type

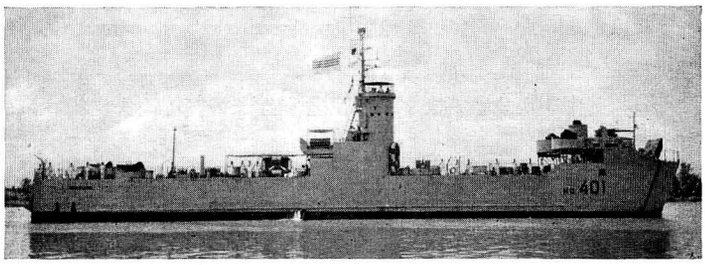
HQ 451 HOA GIANG (ex-*Dinr An*, ex-*Ingenieur en Chef Girod*, ex-*FS* 24, ex-*Governor Wright*)

Displacement:	950 tons
Dimensions:	176 × 32⅓ × 10½ feet
Machinery:	2 G.M. Diesels. 1 shaft. B.H.P.: 1,000 = 12 kts.
Complement:	55

Notes

Former French (ex-U.S.) survey vessel sold to Vietnam in Dec. 1955. Photograph in the 1956-57 to 1959-60 editions.

LANDING SHIPS



HAT GIANG — 1960, *Vietnamese Navy, Official*

U.S. LSM Type

HQ 400 HAN GIANG (ex-*LSM* 9012)
HQ 401 HAT GIANG (ex-*LSM* 9011)
HQ 402 LAM GIANG (ex-*LSM* 226)
HQ 403 NINH GIANG (ex-*LSM* 85)
HQ 404 HUONG GIANG (ex-U.S.S. *Oceanside*, *LSM* 175)
HQ 405 TIEN GIANG (ex-*LSM* 313)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8½ feet
Guns:	2—40 mm. AA., 4—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 2,800 = 12 kts.
Complement:	59

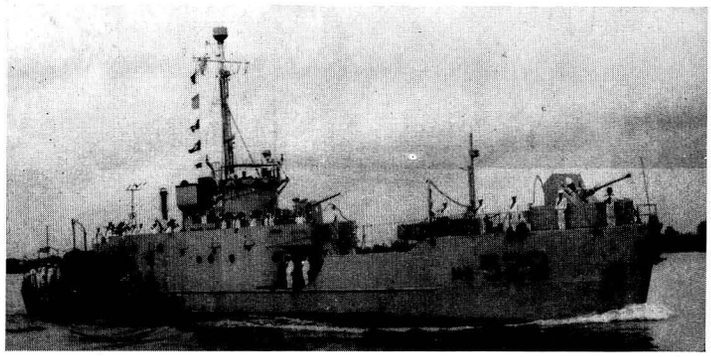
Notes
Landing Ships Medium designed primarily to carry assault troops. First four were transferred to the French Navy for use in Indo-China, Jan. 1954. *LSM* 9011, 9012 transferred to Vietnam Navy, Dec. 1955. *LSM* 9014, 9017, 9018, returned to U.S.A. in 1955. *Oceanside*, LSM 175, was transferred to Vietnam under MAP at Los Angeles, California, on 1 Aug. 1961, and *LSM* 313 in 1962.

U.S. LST Type

CAMRANH HQ 500 (ex-U.S.S. *Marion County*, *LST* 975)
HQ 501 (ex-U.S.S. *Maricopa County*, *LST* 938)

Displacement:	2,366 tons *beaching* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	8—40 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,700 = 11·6 kts.
Complement:	13 officers, 106 men

Notes
Former United States tank landing ships of the LCT type. Built by the Bethlehem Steel Company, Hingham, Massachusetts. Laid down on 1 Dec. 1944 and 14 July 1944, launched on 6 Jan. 1945 and 15 Aug. 1944, and completed on 3 Feb. 1945 and 9 Sep. 1944, respectively. Transferred from the U.S. Navy to the Vietnamese Navy in June 1962 under the Military Aid Program.



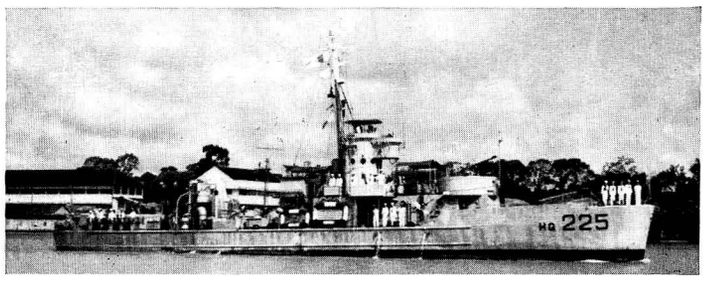
HQ 329 — 1962, *Vietnamese Navy, Official*

U.S. LSIL Type

HQ 327 (ex-*LSIL* 9029) ex-U.S. 698
HQ 328 (ex-*LSIL* 9035) ex-U.S. 702
HQ 329 (ex-*LSIL* 9038) ex-U.S. 872
HQ 330 (ex-*LSIL* 9034) ex-U.S. 699
HQ 331 (ex-*LSIL* 9033) ex-U.S. 871

Displacement:	227 tons (383 tons *full load*)
Dimensions:	158 × 23⅔ × 5½ feet
Guns:	1—3 inch, 1—40 mm., 2—20 mm., 4 M.G. and 5 Army mortars (1—4·7 inch, 2—3·1 inch, 2—60 mm.)
Machinery:	Diesel. 2 shafts. B.H.P.: 1,600 = 14·4

Notes
Stationed in Indo China. Ex-U.S. ships 9030-9033 ceded to France at Bremerton, Washington, 2 Mar. 1951, 9029 and 9034-39 in 1953. Similar to preceding class. *LSIL* 9030 (ex 715) scrapped 1955. The above vessels were transferred from France to Vietnam in 1956.



NO-THAN — 1960, *Vietnamese Navy, Official*

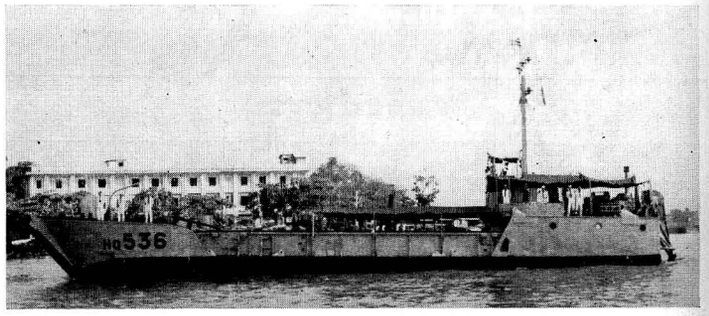
U.S. LSSL Type

HQ 225 NO-THAN (ex-*Framee*, ex-*LSSL* 105)
HQ 226 LINH KIEM (ex-*Arquebuse*, ex-*LSSL* 9022)

Displacement:	227 tons (383 tons *full load*)
Dimensions:	158 × 23¾ × 5¾ feet
Guns:	1—3 inch, 4—40 mm., 4—20 mm.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,600 = 14·4 kts.

Notes
Transferred from U.S.A. in 1951 for service in Indo-China. *Arbalete* was sold by France to Vietnam in 1954 and *Arquebuse* in 1955. *Hallebarde*, *Javeline* and *Rapiere* were given back to the United States in Oct. 1955. *Frame* was transferred from France to Vietnam in 1957.

LANDING CRAFT



HQ 536 — 1962, *Vietnamese Navy, Official*

U.S. LCU Type

HQ 533 (ex-*LCU* 9076) ex-U.S. 1479
HQ 534 (ex-*LCU* 9089) ex-U.S. 1480
HQ 535 (ex-*LCU* 9086) ex-U.S. 1221
HQ 536 (ex-*LCU* 9074) ex-U.S. 1595
HQ 537 (ex-*LCU* 9887) ex-U.S. 1501
HQ 538 (ex-*LCU*) ex-U.S. 1502
HQ 539 (ex-*LCU*) ex-U.S. 1594

Notes
These landing ships and landing craft form "naval attack divisions" (*Division navale d' assault*) most of which have one LSSL or LSIL as flagships. Built in U.S.A. and transferred under MDAP except 1594 and 1595 built under off-shore programme MDAP. Photograph in the 1958-59 edition.
Other Types
There are also 67 landing craft of the LCM Type, most equipped as light monitors or gunboats, and 111 LCVP.

AUXILIARY GUNBOATS

Para-military organisation of a junk force has been organised with United States assistance. The new junk fleet is armed with 50 cal. machine guns and small arms, 28 groups of junks having been formed by June 1962. Mass production has commenced of improved design junks to control infiltration of South Vietnam coastal waters by the Viet Cong. A total of 700 junks allied with the Vietnamese Navy is expected by the end of 1962. New junks are fitted with armour plate and fibre glass to protect the wooden hulls against marine borers.

WATER CARRIER

YW 152
Notes
Former United States self-propelled water barge transferred under the Military Aid Program.

OILER

HQ 470 (ex-*L'Aulne*, ex-U.S. *YOG* 80)

Displacement:	450 tons
Capacity:	700 tons deadweight

Notes
Ex-U.S. oiler ceded to France 2 Mar. 1950. Rated as regional supply ship. Transferred from the French Navy to the Vietnamese Navy in 1956.

TUGS

YTL 152 **YTL 200** **YTL 203** **YTL 206** **YTL 245**
Notes
Former United States small harbour tugs transferred from the U.S. Navy under the MAP.

VIET MINH

Naval personnel strength is reported to be over 200 officers and 2,000 men.

PATROL VESSELS

3 U.S.S.R. "S.O.I" Type

Displacement:	115 tons *light*, 120 tons *normal*
Dimensions:	138 (*o.a.*) × 20 × 7 (*mean*), 10 (*max.*) feet
Guns:	6—25 mm. (3 twin mountings)
A/S weapons:	4 ahead throwing rocket launchers, 2 D.C.T.
Machinery:	3 diesels. B.H.P.: 3,500 = 26 kts.
Complement:	30

Notes
Submarine chasers of the Soviet "S.O.I." class transferred in 1960-61.

MOTOR TORPEDO BOATS

4 U.S.S.R. "P 6" Type

Displacement:	100 tons
Machinery:	Speed = 40 kts.

Notes
Wooden hulled MTBs of the Soviet "P 6" class built in China and transferred in 1957.

12 U.S.S.R. "PA 4" Type

Displacement:	50 tons
Dimensions:	85½ × 20 × 6 feet
Machinery:	Diesels. B.H.P.: 2,000 = 42 kts.

Notes
Aluminium hulled MTBs of the Soviet "PA 4" class transferred from the U.S.S.R. in 1961.

MOTOR GUNBOATS

30 U.S.S.R. "Swatow" Type

Dimensions:	83 × 20 × 6 feet
Guns:	2—37 mm., 2—20 mm., 8 D.C.T.
Machinery:	4 diesels. B.H.P.: 4,800
Complement:	17

Notes
Some 25 to 30 "Suntow" class motor gunboats built in China were transferred in 1958. Pennant numbers of 3 digits in a 600 series.

YUGOSLAVIA

Administration

Commander-in-Chief, Yugoslav Navy:
Admiral Mate Jerkovic.

Commander-in-Chief of the Fleet:
Vice-Admiral Bogdan Pecotic.

Naval Attaché in London:
Captain Ljubisa M. Mihajlovic

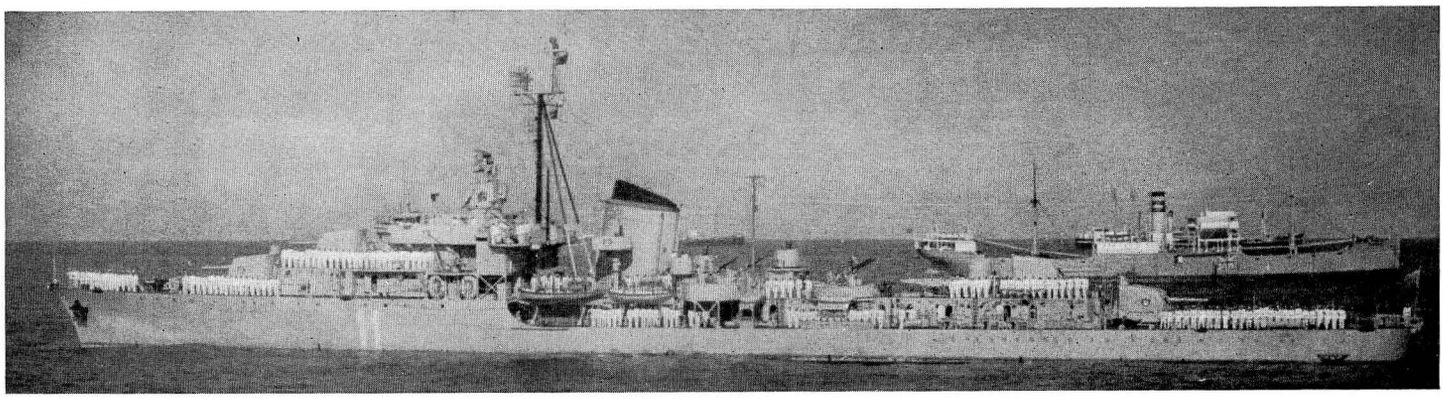
Personnel

1962: 27,000 officers and ratings

Mercantile Marine

Lloyd's Register of Shipping:
264 vessels of 831,604 tons

DESTROYERS (*Razarac*)



SPLIT

1959, *Yugoslavian Navy, Official*

1 "Split" Class

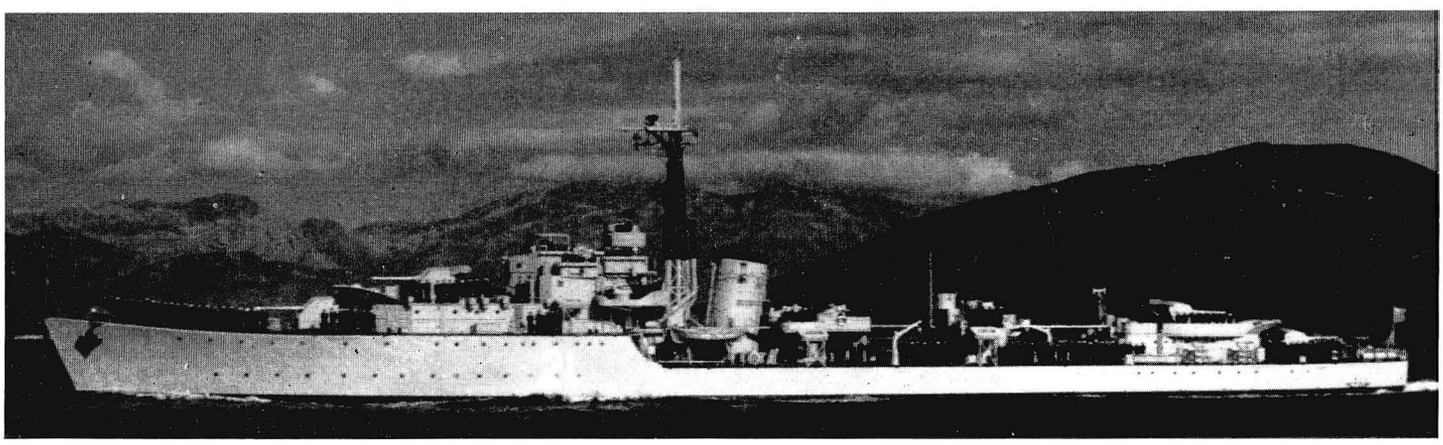
SPLIT (ex-*Spalato*, ex-*Split*)

Pennant No.:	11
Builders:	Brodogradiliste "3. Maj", Rijeka
Laid down:	1939
Launched:	1940
Completed:	4 July 1958

Displacement:	2,400 tons *standard* (3,000 tons *full load*)
Dimensions:	376½ × 36½ × 12½ feet
Guns:	4—5 inch, 12—40 mm. AA.
Tubes:	5—20·8 inch
A/S weapons:	2 squid type, 6 D.C.T., 2 D.C. racks.
Mines:	40
Machinery:	Geared Turbines. 2 shafts. S.H.P.: 50,000 = 38 kts. (*max.*) designed, 31.5 kts. sea speed
Boilers:	2
Oil fuel:	590 tons

General Notes
The original ship was laid down by Chantieres de Loire, Nantes, in 1939, at Split Shipyard. Launched in 1940. It is officially stated that this ship carried out extensive trials in 1958 and was ready for operational service in 1959 The original design provided for an armament of 5—5·5 inch guns, 10—40 mm. AA. guns, and 6—21·7 inch torpedo tubes (tripled).

Engineering Notes
The shaft horsepower is also reported variously as 60,000 and 70,000.



KOTOR

1962, *Yugoslavian Navy, Official*

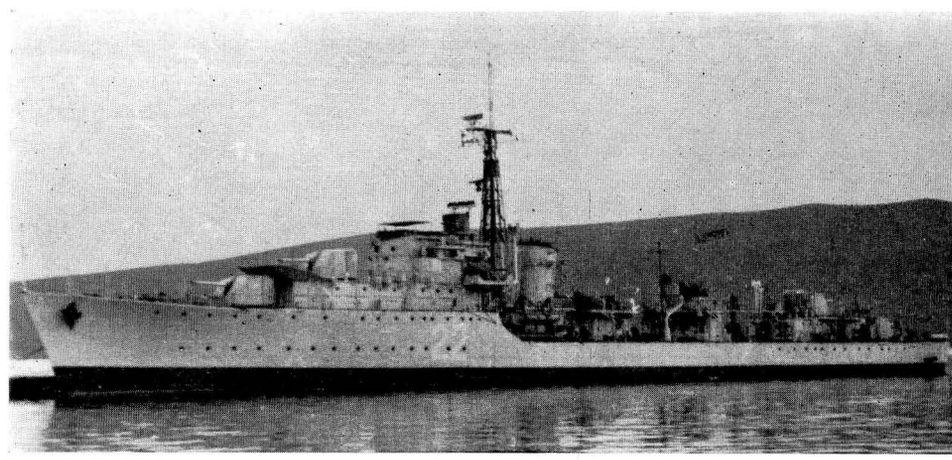
2 Ex-British "W" Class

KOTOR (ex-*Kempenfelt*, ex-*Valentine*; Leader)
PULA (ex-*Wager*)

Name:	*Kotor*	*Pula*
Pennant No.:	21	22
Builders:	John Brown & Co. Ltd., Clydebank	John Brown & Co. Ltd., Clydebank
Laid down:	24 June 1942	20 Nov. 1942
Launched:	8 May 1943	1 Nov. 1943
Completed:	25 Oct. 1943	14 Apr. 1944

Displacement:	1,710 tons (*Kotor*, 1,730 tons) *standard*, 2,505 tons (*Kotor*, 2,525 tons) *full load*
Dimensions:	362¾ × 35¾ × 16 feet
Guns:	4—4·7 inch, 3—40 mm. AA. (1—40 mm. in *Kotor*)
A/S weapons:	4 D.C.T.
Tubes:	8—21 inch
Machinery:	Parsons geared turbines. S.H.P.: 40,000 = 36·75 kts. (designed), 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	186

General Notes
Former British destroyers of the "W" class. Purchased during 1956 and towed to Yugoslavia in Oct. 1956 to be refitted in a northern Yugoslavian shipyard. *Kotor* was re-commissioned on 10 Sep. 1959 and *Pula* by the end of 1959, it is officially stated.



PULA

1962, *Yugoslavian Navy, Official*

Class Notes
Sister ships of *Wessex*, renamed *Jan van Riebeeck*, and *Whelp*, renamed *Simon van der Stel* in South African Navy and original sister ships of *Wakeful*, *Whirlwind* and *Wizard* in the British Navy, and *Wrangler*, in the South African Navy converted to frigates, see earlier pages.

Appearance Notes
One director on bridge not so large as in later classes. Tall foremast in both. Single Bofors mounting high up abaft funnel in superfiring position. A starboard broadside view of *Pula* appears in the 1957-58 edition, and another photograph of *Kotor* in the 1957-58 to 1961-62 editions.

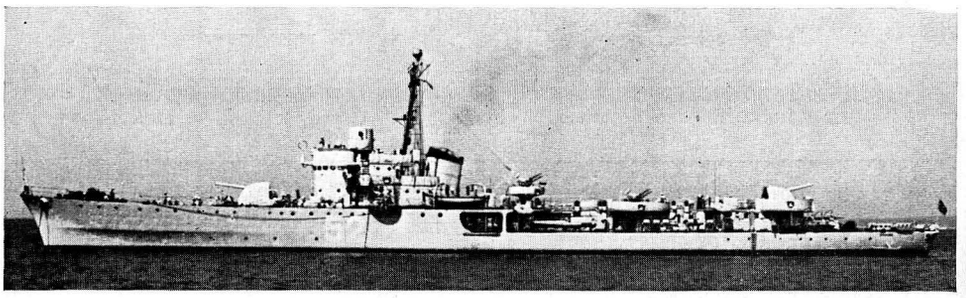
FAST FRIGATES (Light Destroyer Type)

4 Ex-Italian Type

BIOKOVO (ex-*Aliseo*) **TRIGLAV** (ex-*Indomito*)

Name:	*Biokovo*	*Triglav*
No.:	52	51
Builders:	Navalmeccanica, Castellammare	Cd. T. Riva Trigoso
Laid down:	16 Sep. 1941	10 Jan. 1942
Launched:	20 Sep. 1942	6 July 1943
Completed:	28 Feb. 1943	4 Aug. 1943

Displacement: 1,095-1,204 tons *standard* (1,649-1,709 tons *full load*)
Dimensions: 270½ (*pp.*), 293 (*o.a.*) × 32½ × 9½ feet
Guns: 3—3·9 inch, 47 cal., d.p., 11—20 mm. AA. (*Biokoa:* 2—3·9 inch, 10—20 mm. AA.) 4 D.C.T.
Tubes: 4—18 inch
Machinery: 2 sets Tosi geared turbines. 2 shafts. S.H.P.: 15,500-16,000 = 25-26 kts.



BIOKOVO 1957, *Yugoslavian Navy, Official*

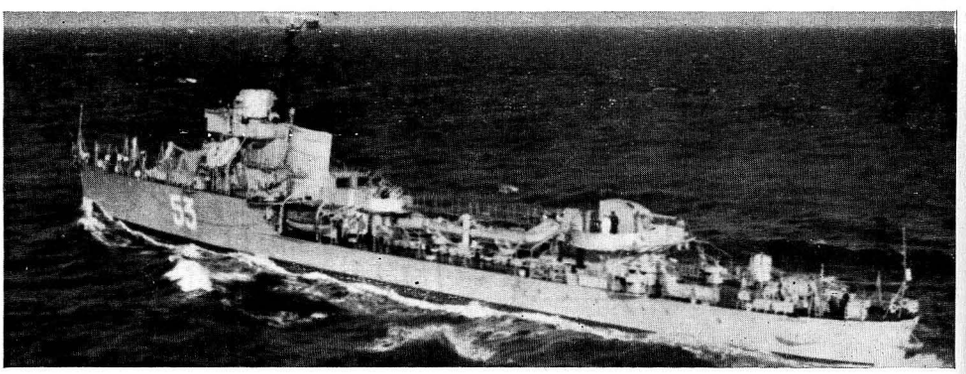
Boilers: 2, of 3-drum type
Oil fuel: 430 tons
Radius: 3,500 miles at 15 kts.
Complement: 175

Notes
Ex-Italian large oceangoing torpedo boats of escort destroyers. A photograph of *Triglav* appears in the 1954-55 to 1957-58 editions.

DURMITOR (ex-*Ariete*) **UČKA** (ex-*Balestra*)

Name:	*Durmitor*	*Učka*
No.:	53	54
Builders:	Ansaldo, Genoa	C.N.Q., Fiume
Laid down:	15 July 1942	5 Sep. 1942
Launched:	6 Mar. 1943	1943
Completed:	5 Aug. 1943	1949

Displacement: 797 tons *standard* (about 1,000 tons *full load*)
Dimensions: 265¾ × 27½ × 9 feet
Guns: 2—3·9 inch (100 mm., 47 cal.) AA., 10—20 mm., 70 cal., AA.
Tubes: 6—18 inch (tripled)
Machinery: 2 sets Tosi geared turbines. 2 shafts. S.H.P.: 22,000 = 31·5 kts.
Boilers: 2, of 3-drum type
Oil fuel: 200 tons
Radius: 1,800 miles at 15 kts.
Complement: 150



DURMITOR 1954, *Official*

Notes
Former Italian oceangoing torpedo boats or small destroyers. *Durmitor* is the only survivor of her class. *Ucka* is not quite of same type as *Durmitor*, being larger. New name *Ucka* means the Monte Maggiore near Abbazia. *Ucka* was damaged on slip by bombs on 20 Feb. 1945 (she was named TA 47 by the Germans), rebuilt and completed by Yugoslavia. A photograph of *Ucka* appears in the 1954-55 to 1957-58 editions.

SUBMARINES (*Podmornice*)

"Sutjeska" Class

SUTJESKA

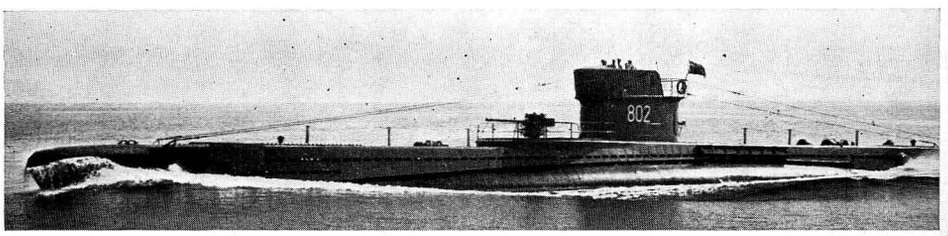
Displacement: 550 tons *standard*

Note
It was officially stated in Oct. 1959 that the submarine *Sutjeska* had been launched at the Shipyard "Uljanik," Pula. The first submarine to be built in a Yugoslav yard. Commissioned at Pula on 16 Sep. 1960. Two sister ships are projected.

"Sava" Class

SAVA (ex-*Tritone*) Pennant No. 802.

Displacement: 747 tons *standard*, 905 tons *surface*, 1,068 tons *submerged*
Dimensions: 207⅛ × 22¾ × 16 feet
Guns: 1—3·9 inch, 2—20 mm. AA.
Tubes: 6—21 inch
Machinery: H.P.: 2,400 = 16 kts. (*surface*), 8 kts. (*submerged*)
Radius: 12,000 miles at 8·5 kts.
Complement: 55



SAVA 1959, *Yugoslavian Navy, Official*

Notes
Formerly Italian. Built by C.R.D.A. Monfalcone. Laid down on 12 May, 1941. Launched on 3 Jan. 1942. Completed on 10 Oct. 1942. Sunk on 19 Jan. 1943. Salvaged.

Recent Disposal
It was officially stated in 1958 that the submarine *Tara* (photograph in the 1952-53 to 1957-58 editions) has been scrapped.

MINELAYER Training Ship (*Skolski Brodovi*)

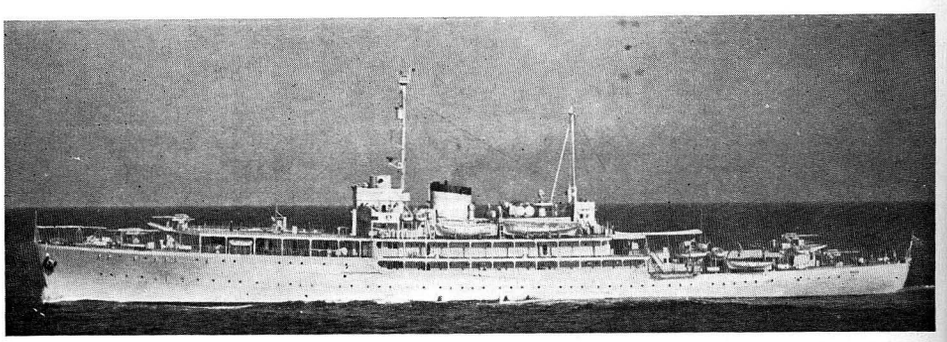
Ex-Italian Type

M 11 GALEB (ex-*Kuchuck*, ex-*Ramb* III)

Displacement: 5,182 tons
Measurement: 3,667 tons *gross*
Dimensions: 385 × 51 × 18 feet
Guns: 4—3·5 inch, 4—40 mm., 24—20 mm. (quadruple)
Machinery: Diesel motors. 2 shafts = 17 kts.

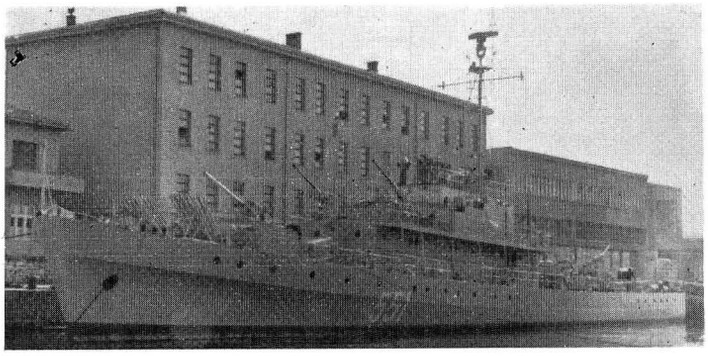
Notes
Formerly Italian. Launched in 1938. Refloated and completed in 1952. Adapted for minelaying. Now serving as a training ship. Also serves as the Presidential Yacht.

Recent Disposal
It was officially stated in 1962 that the minelayer (*Minopolagaci*) *Zelengora*, M 21 (ex-*Orao*, ex-M 97)—while in Italian hands named *Vergada*—is scrapped.



GALEB 1959, *Yugoslavian Navy, Official*

PATROL VESSELS



MORNAR — 1962, *Yugoslavian Navy, Official*

1 Yugoslavian Built

MORNAR

Displacement:	330 tons *standard* (400 tons *full load*)
Dimensions:	170×23×6½ feet
Guns:	2—3 inch, 2—40 mm. AA., 2—20 mm. AA.
A/S weapons:	2 rocket launchers, Mark 22
Machinery:	4 diesels. B.H.P.: 3,240=18 kts.
Radius:	3,000 miles at 12 kts.
Complement:	60

Notes
A new patrol vessel completed on 10 Sep. 1959. Design is basically similar to PBR 581.



PBR 581 — *Yugoslavian Navy, Official*

1 French-Built U.S. Offshore Type

PBR 581 (ex-*P 6*)

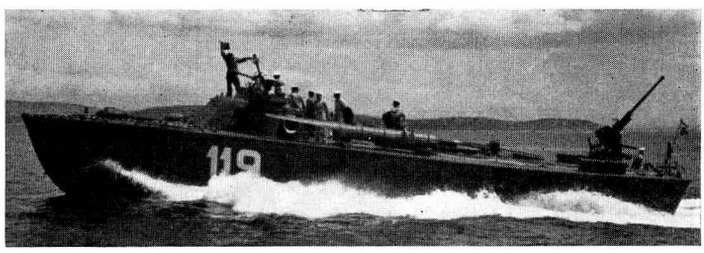
Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 (*pp.*)×23×6½ feet
Guns:	2—40 mm. Bofors AA., 2—20 mm. AA.
A/S weapons:	1 Hedgehog. 4 D.C.T., 2 D.C. racks
Machinery:	4 Pielstick SEMT diesels. B.H.P.: 3,240=18·7 kts.
Radius:	3,000 miles at 12 kts., 2,000 miles at 15 kts.
Complement:	62

Notes
U.S.A. offshore procurement. Ordered in France. Built by F. C. Mediterranee (Graville). Launched on 1 June, 1954. Transferred to Yugoslavia in 1956.
Recent Disposals
It was officially stated in 1962 that the ex Austrian torpedo boat (*torpiljarke*) *Cer*, 92 (ex-*T 5*, ex-*T 87*) is scrapped. Her sister ship *Golesnica*, 91 (ex-*T 1*, ex-*T 76*) was officially stricken from the list in Oct. 1959.

MOTOR TORPEDO BOATS (*Torpedni Čamci*)



MTB 174 — 1962, *Yugoslavian Navy, Official*



MTB 119 — *Yugoslavian Navy. Official*

96 Type "108"

102	**115**	**120**	**125**	**157**	**162**	**167**
103	**116**	**122**	**126**	**159**	**164**	**170**
108	**119**	**124**			**165**	**174**

Displacement:	60 tons
Dimensions:	69 (*pp.*), 78 (*o.a.*)×21½×7 feet
Guns:	1—40 mm. AA., 2—12·7 mm. MG.
Tubes:	2
Machinery:	3 Packard petrol motors. Speed: 40 kts.
Complement:	14

Notes
The total number of motor torpedo boats is reported to be over 65. Under future programmes it is planned to raise the total to 110.
Transfer Notes
Two of this class were transferred to Ethiopia in 1960 and renamed *Barracuda*, P 22, and *Shark*, P 21.

7 American Type

MT 1 (ex-*PT 201*) **MT 2** (ex-*PT 204*) **MT 3** (ex-*PT 207*) **MT 4** (ex-*PT 208*) **MT 5** (ex-*PT 209*) **MT 6** (ex-*PT 211*) **MT 7** (ex-*PT 213*)

Displacement:	56 tons *full load*
Dimensions:	78×20⅔×5¼ feet
Guns:	1—40 mm. AA.
Tubes:	4
Machinery:	3 Packard motors. 3 shafts. H.P.: 4,500=35 kts.
Complement:	17

Notes
Built by Higgins. All launched in 1942. Transferred from U.S. Navy in 1945. *MT 8* (ex-*PT 217*) was scrapped in 1955, and the remainder will be in the near future.

2 German Type

391 (ex-*Durmitor*) **392** (ex-*Kaimakcalan*)

Displacement:	60 tons
Dimensions:	92×14×5 feet
Guns:	1—47 mm. AA., 1 M.G. AA.
Tubes:	2—18 inch
Machinery:	4 Mercedes-Benz petrol motors. H.P.: 3,000=34 kts.
Complement:	14

Notes
Built by Lürssen, Vegesack, in 1936-37. To be disposed of in the near future.

COASTAL MINESWEEPERS



M 152 — 1958, *Yugoslavian Navy, Official*

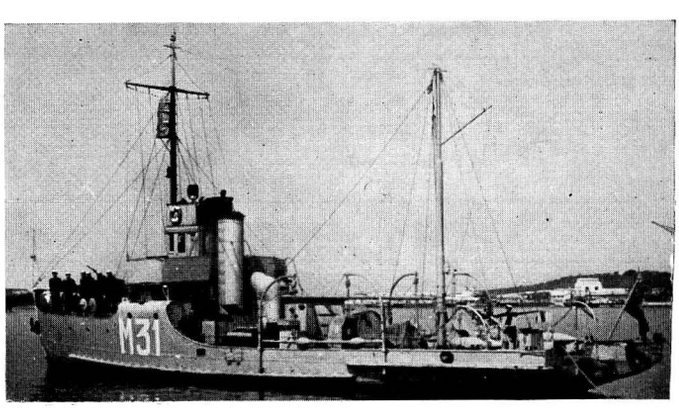
3 French-Built U.S. Offshore Type

M 151 (ex-D 25) **M 152** (ex-D 26) **M 153** (ex-D 27)

Displacement:	365 tons *standard* (424 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*)×28×8½ feet
Guns:	1—40 mm. Bofors AA., 1—20 mm. Oerlikon AA.
Machinery:	SIGMA free piston generators. 2 shafts. B.H.P.: 2,000=15 kts.
Oil fuel:	48 tons
Radius:	3,000 miles at 15 kts.
Complement:	40

Notes
Built in France by A. Normand as United States "off-shore" orders. Launched on 27 Feb. 1956, 26 May 1956 and 26 June 1956, respectively, and allocated to the Yugoslavian Navy at Cherbourg in Sep. 1957.

MINING TENDERS (*Tenderi minopolagaci*)



M 31 — 1955, *Official*

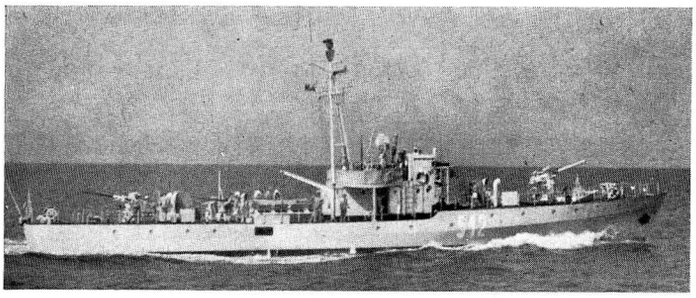
3 Yarrow Class

M 31 (ex-*Meljine*) **M 32** **M 33** (ex-*Mljet*)

Displacement:	130 tons
Dimensions:	174×26¼×13 feet
Guns:	1—47 mm.
Machinery:	Triple expansion. H.P.: 280=9 kts.

Notes
Built by Yarrow's Adriatic Yard, Kraljevica. Launched in 1931. While in Italian hands *M 31* and *M 33* were named *Solto* and *Meleda*, respectively.

PATROL BOATS

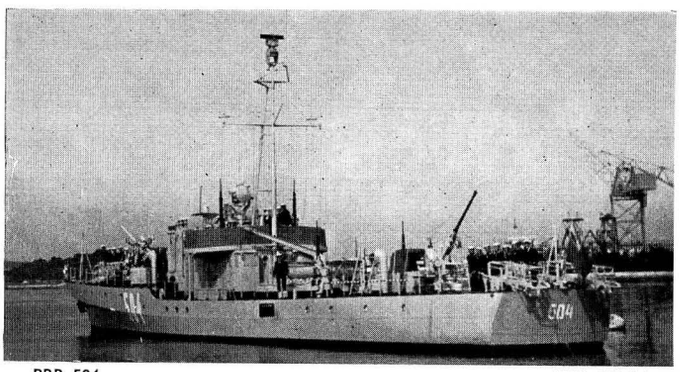


PBR 512 1959, *Yugoslavian Navy, Official*

" Kraljavica " Class Submarine Chasers
16 PBR 501-508 and 509-516 Types

PBR 509 **PBR 511** **PBR 513** **PBR 515**
PBR 510 **PBR 512** **PBR 514** **PBR 516**

Notes
This second batch of submarine chasers launched in 1957-59 are an improvement on the *PBR* 501-508 series below, but of similar basic particulars.



PBR 504 1955, *Official*

PBR 501 **PBR 503** **PBR 505** **PBR 507**
PBR 502 **PBR 504** **PBR 506** **PBR 508**

Displacement: 190 tons *standard* (245 tons *full load*)
Dimensions: 134½ × 20⅔ × 7 feet
Guns: 1—3 inch, 1—40 mm. AA., 4—20 mm. AA.
A/S weapons: D.C.
Machinery: Diesel. 2 shafts. B.H.P.: 3,300=20 kts.
Oil fuel: 15 tons
Radius: 1,500 miles at 12 kts.
Complement: 54

Notes
These submarine chasers of the " 500 " class were launched from 1953 to 1956.

SALVAGE VESSEL (*Brod za Spasavanje*)

PS 11 SPASILAC
Displacement: 740 tons
Dimensions: 174 × 26½ × 13 feet
Machinery: Triple expansion. H.P.: 2,000=15 kts.

Notes
Built by Howaldt, Kiel. Launched in 1929. Name means " Salvador." While in Italian hands she was called *Intangible*.
Recent Disposal of Submarine Depot Ship
It was officially stated in 1962 that the submarine depot ship (*Matica za podmornice*) *Miner*, PB 21 (ex-*Sitnica*, ex-*Najade*)—while in Italian hands named *Curzola*—is scrapped.

RIVER PATROL VESSEL

KRAJINA (ex-*Dragor*)
Displacement: 250 tons
Dimensions: 164 × 26½ × 3¾ feet
Machinery: H.P.: 480=10 kts.

Notes
Launched in 1923. Formerly served as Royal Yacht on Danube.

RIVER GUNBOATS

2 RPC 200 Type

Displacement: 30 tons
Guns: 2—3 inch in turrets
Machinery: Speed=15 kts.

Notes
Both launched in 1945 for the Donau Flotilla.

YACHT (*Jahta*)

ISTRANKA (ex-*Vilax-Dalmata*)
Displacement: 230 tons
Machinery: H.P.: 325=12 kts.

Notes
Name means " Nymph." Named *Fata* whilst in Italian hands during 1941-45.
Recent Disposal of River Monitor
It was officially stated in 1962 that the river monitor *Sava* (ex-*Bodrog*) is scrapped.

INSHORE MINESWEEPERS (*Minolovci*)



M 109 1954, *Official*

18 Type 101

M 101 **M 103** **M 105** **M 107** **M 109** **M 111** **M 113** **M 115** **M 120**
M 102 **M 104** **M 106** **M 108** **M 110** **M 112** **M 114** **M 116** **M 140**

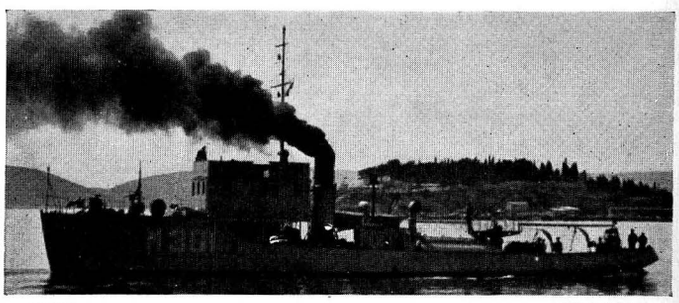
Displacement: 90 tons
Dimensions: 82 × 19½ × 6¼ feet
Guns: 1—40 mm., 1—20 mm.
Machinery: Diesel. B.H.P.: 135-175=12 kts.

Notes
The displacement of these vessels is also reported as 60 tons.

4 U.S. MSI Type

MSI 98 **MSI 99** **MSI 100** **MSI 101**

Notes
The above are the U.S. Navy hull numbers of boats building for transfer to Yugoslavia under the Military Aid Program.



M 301 1955, *Official*

6 Ex-Italian Type 301

ML 301 (ex-*RD* 6) **ML 303** (ex-*RD* 21) **ML 305** (ex-*RD* 27
ML 302 (ex-*RD* 16) **ML 304** (ex-*RD* 25) **ML 306** (ex-*RD* 28

Displacement: 151 to 156 tons
Dimensions: 116 × 19¼ × 6 feet
Guns: 1—3 inch AA.
Machinery: Triple expansion. I.H.P.: 750=10 kts.

Notes
Formerly Italian. Launched in 1917-19. ML 307 (ex-*RD* 29) was removed from the effective list in 1955.

RIVER MINESWEEPERS

14 RML 300 Type

M 301 **M 303** **M 305** **M 307** **M 309** **M 311** **M 313**
M 302 **M 304** **M 306** **M 308** **M 310** **M 312** **M 314**

Displacement: 38 tons
Guns: 1—20 mm.
Machinery: Speed=12kts.

Notes
All these boats were launched in 1951-53. Photograph of M 313 in the 1957-58 edition.

DESPATCH VESSEL

1 Yacht Type

JADRANKA(ex-*Bjeli Orao*)

Displacement: 567 tons *standard* (660 tons *full load*)
Dimensions: 197 (*pp*). 213¼ (*o.a.*) × 26¼ × 9½ feet
Guns: 2—40 mm. AA., 2 M.G.
Machinery: 2 Sulzer diesels. B.H.P.: 1,900=18 kts.

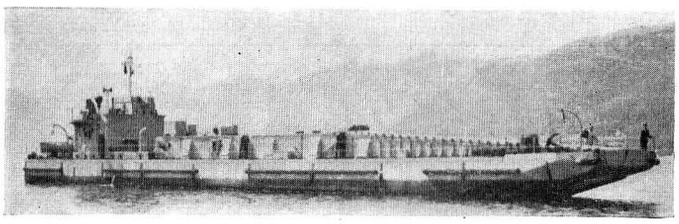
Notes
Builders, C.R. dell'Adriatico, San Marco, Trieste; launched 3 June 1939. Was used as Admiralty yacht and yacht of Marshall Tito. While in Italian hands was named *Alba* for some days only, then *Zagabria*. Photograph of *Jadranka* in 1957-58 edition.

SAIL TRAINING SHIP

JADRAN
Displacement: 720 tons
Dimensions: 190 × 29¼ × 13¾ feet
Sail area: 8,600 sq. ft.
Machinery: 1 Linke-Hofman Diesel. H.P.: 375=8 kts.

Notes
Launched in 1932. Accommodation for 150 Cadets. Name means " Adriatic." While in Italian hands she was named *Marco Polo*. A photograph appears in the 1954-55 to 1957-58 editions.

LANDING CRAFT



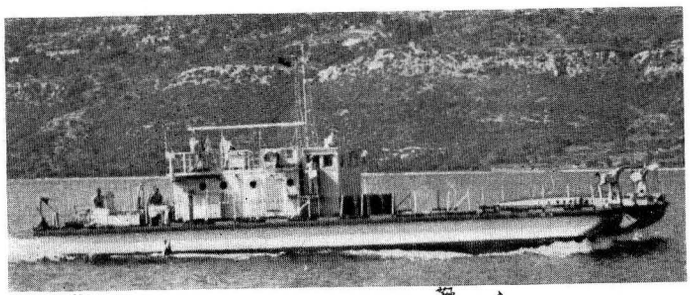
D 230 1959, *courtesy B. Hinchliffe, Esq.*

Displacement: *circa* 500 tons

Notes
Capable of carrying at least two, possibly three of the heaviest tanks. Unlike other tank landing craft in that the lower part only of the stern drops to form a ramp down which the tanks go ashore, underneath the prow, which is rigid.

New Construction

Notes
New construction includes some landing craft of LCA, LCT and Siebel-ferry types.

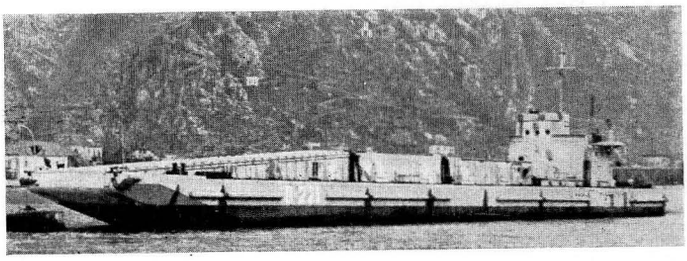


Catamaran type 1959, *courtesy B. Hinchcliffe, Esq.*

Catamaran Type

Displacement: *circa* 50 tons

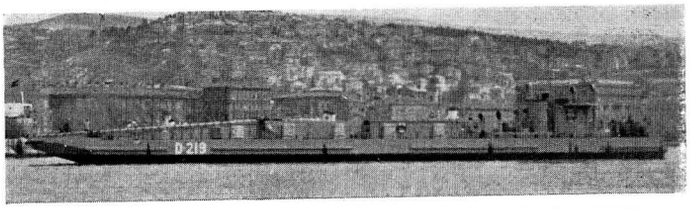
Notes
A smaller craft consisting of two pontoons some feet apart, secured to each other by cross-girders on which stand the bridge and cabins, etc. This vessel appears to be capable of carrying one medium tank, to be put ashore by two bridge members which can be seen quite clearly, folded back on the decks.



D 221 1959, *Yugoslavian Navy, Official*

DTK 221

Displacement: 410 tons
Dimensions: 144½ × 19¾ × 7 feet
Guns: 1—20 mm. AA., 2—12·7 mm.
Machinery: Speed = 10 kts.
Complement: 15



D 219 1959, *Yugoslavian Navy, Official*

D 206 (ex-*MZ* 713) **D 219** (ex-*MZ* 717)

Displacement: 225 tons and 239 tons
Guns: 1—20 mm. AA., 2 M.G. AA.
Machinery: Speed = 11 kts.

Notes
Ex-Italian landing craft. Launched in 1942. Capable of carrying three tanks.

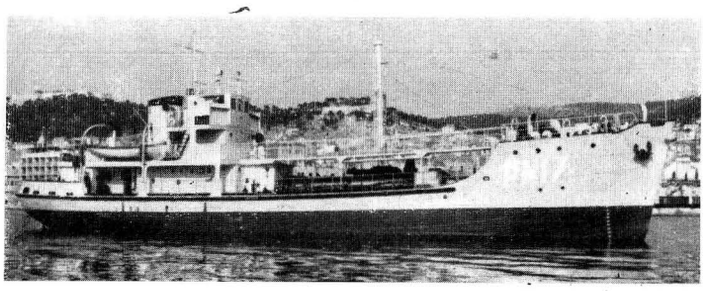
D 203 **D 204**

Displacement: 220 tons
Guns: 1—3·4 inch (88 mm.), 2—20 mm. AA.
Machinery: Speed = 10 kts.

Notes
Ex-German landing craft. Two landing craft were launched in 1956.

EE*

OILERS



PN 17 1962, *Yugoslavian Navy, Official*

PN 17

Displacement: 420 tons *standard* (650 tons *full load*)
Dimensions: 141½ × 22¾ × 13½ feet
Machinery: B.H.P.: 300 = 7 kts.

4 PN 13 Type

PN 13 (ex-*Lovcer*)
Displacement: 560 to 695 tons
Machinery: Speed = 8·5 kts.

Notes
PV 13 (ex-*Lovcer*) was launched in 1932.

ULJESURA **KIT**
Displacement: 250 tons

TRANSPORTS

2 PT 71 Type

Displacement: 310 tons *standard* (428 tons *full load*)
Dimensions: 141½ × 22½ × 16 feet
Machinery: B.H.P.: 300 = 7 kts.

Notes
All the above particulars were officially furnished by the Yugoslav Navy in 1962.

10 PT 82 Type

PT 21 TUNJ (ex-*KRK*, ex-*Kt* 6)
Displacement: 650 tons *standard* (834 tons *full load*)
Dimensions: 221¾ × 36 × 6½ feet
Machinery: H.P.: 2,400 = 12 kts.

Notes
Former German KT type light transport. A photograph of *Tunj* appears in the 1954-55 to 1957-58 editions.

WATER CARRIERS (*Vodonosci*)

PV 6 **PV 11** **PV 12**

Notes
There are 8 water carriers of various types. Some are of new construction. Also *PT* 12 and *PO* 54

TUGS (*Remorkeri*)

PR 52 (ex-*San Remo*)
Displacement 170 tons
Machinery: H.P.: 350 = 9 kts.

Notes
Former Italian tug and multi-purpose vessel. Launched in 1937.

PR 58 (ex-*Molara*)
Displacement: 118 tons
Machinery: H.P.: 250 = 8 kts.

Notes
Former Italian tug. Launched in 1937, now used as general transport and towing vessel.

PR 51 (ex-*Porto Conte*)
Displacement: 226 tons

Notes
Former Italian tug. Launched in 1936. A photograph appears in the 1951-52 to 1957-58 editions.

PR 55 (ex-*Snazi*)
Displacement: 100 tons
Machinery: H.P.: 300 = 10 kts.

Notes
Launched in 1917. Name means "Strong." The Italian name was *Resistance*.

PR 54 (ex-*Ustrajni*)
Displacement: 160 tons
Machinery: H.P.: 250 = 9 kts.

Notes
Launched in 1917. Name means "Durable." The Italian name was *Duratero*.

LR 11 (ex-*Basiluzzo*)
Displacement: 108 tons
Machinery: H.P.: 130 = 8 kts.

Notes
Former Italian tug. Launched in 1915.

PP 1 (ex-*Marljivi*)
Displacement: 130 tons
Machinery: H.P.: 300 = 12 kts.

Notes
Very old tug. Launched in 1898. Name means "Industrious."

RRM 11 (ex-*Fruska Gora*)

Notes
River tug. General utility craft and service personnel transports.

ALL THE WORLD'S FIGHTING SHIPS

	Heavy Aircraft Carriers	*Large Aircraft Carriers*	*Light Aircraft Carriers*	*Escort Aircraft Carriers and Commando Carriers*	*Battleships*	*Cruisers*	*Leaders, Large Destroyers and Frigates (DLG)*	*Destroyers*	*Destroyer Escorts and Frigates (and APD)*	*Nuclear Submarines*	*Submarines*	*Corvettes (including PCE)*	*Patrol Vessels and Submarine Chasers (PC)*	*Motor Torpedo Boats and Fast Patrol Boats*	*Fleet and Fast Minelayers and Mine Support Ships*	*Coastal Minelayers*	*Seaplane Tenders*
ARGENTINA			1			3		9	4		2	5		6			
AUSTRALIA			1	1				6	11								
BELGIUM												4					
BRAZIL			1			2		13	8		2	10					
BULGARIA								2	4		5			56			
BURMA									1				4	5			
CANADA			1					9	35		1						
CEYLON									2								
CHILE						2		6	2		2	3	3				
CHINA								4	18		24	4	24	150			
COLOMBIA								3	3								
CUBA									4			2	5	4			
DENMARK									4		3	6	2	16		6	
DOMINICAN R. ...								2	3			5	6				
ECUADOR									3			2					
EIRE									3								
FINLAND									1				3	18		2	
FRANCE			4			3		18	37		22	5	16				
GERMANY (E)									5			6	14	39			
GERMANY (W)								8	12		6	12		50			
GREECE						1		8	6		2		15			2	
INDIA			1			2		3	14								
INDONESIA						1		5			4	3	18	16			
IRAN									1			1	2				
IRAQ														12			
ISRAEL								2	1		2		1	12			
ITALY						2	2	5	17		6	27	8	16			
JAPAN								18	26		4		15	10		2	
KOREA (N)													17	21			
KOREA (S)									6			8	8	3			
MEXICO									8			5	10				
NETHERLANDS			1			2		12	9		6	6	1		1		
NEW ZEALAND .						1			5				2				
NORWAY								3	5		7			20		6	
PAKISTAN						1		5	2								
PARAGUAY																	
PERU . .						2		2	5		4	2					
PHILIPPINES . ..									2			7	7				
POLAND								3			7		8	40			
PORTUGAL								3	11		3		14				
RUMANIA								2			12		3	8		1	
SOUTH AFRICA ..								2	4								
SPAIN						5		27	8		9	6	2	6	6		
SWEDEN						2		12	11		26		2	37	1	10	
TAIWAN								5	15			3	27	50		1	
THAILAND									5				18			2	
TURKEY								9			10	10				6	
†U.A.R.								4	3		9	3		43			
UNITED KINGDOM ..		3	2	2		5	2	25	74	1	44			2	2	6	
URUGUAY									3				4				
*U.S.A.	10	24	5	19	4	43	17	356	339	26	150	14	82*		12		8
§U.S.S.R.						22		165	275	12	453	13	245	1,000	5	12	
VENEZUELA								3	6		1		12				
YUGOSLAVIA								3	4		2		2	96	1	3	

† United Arab Republic (Egypt)

* Includes Coastguard

§ Round figures are estimated

TABLE SHOWING THE NUMERICAL STRENGTH OF EACH COUNTRY

Amphibious Force Flagships	*Ocean Minesweepers and Fleet Minesweepers*	*Coastal Minesweepers and Mine Hunters*	*Inshore Minesweepers and Minesweeping Boats*	*River Gunboats*	*Motor Launches and Small Patrol Craft*	*Landing Ships*	*Landing Craft*	*Boom Defence Vessels and Netlayers*	*Survey Ships*	*Depot Ships, Repair Ships and Maintenance Ships*	*Transports*	*Supply Ships*	*Oilers*	*Training Ships*	*Tugs*	*Miscellaneous*	
	8					12	4		4	1	8		6	2	15	2	ARGENTINA
		6			7			4	1				1		3	9	AUSTRALIA
	5	26	16		10						2				1	8	BELGIUM
		2		9	5				6	1	4		6	2	13	2	BRAZIL
	7	4	13		5		20							1		2	BULGARIA
	1			21	13										1	2	BURMA
		11			3				4	2		4	2		37	44	CANADA
	2				7										1	1	CEYLON
						3	2			1	3		3	1	5	3	CHILE
	12	26		23	61	31	28	1	2	1	1	5	2	2	2	429	CHINA
				6	18						8		3		12	2	COLOMBIA
					27										1	6	CUBA
		8	18		14		10		1	2						8	DENMARK
					9	1	2						2	1	5	5	DOMINICAN R.
					6	2					1				2	2	ECUADOR
																3	EIRE
			25		14		8								3	7	FINLAND
	15	78	15		28	8	9	12	3	2	5	20	7	4	23	22	FRANCE
	16		87		93				2				3	1	7	27	GERMANY (E)
		24	38		42	9			7	20		5		3	14	17	GERMANY (W)
	5	16			7	16	13	1	2	3	6		7		12	17	GREECE
		4	2		14	1	1		4				3		1	7	INDIA
		22			72	11	6		2	2	4		4	2	5	5	INDONESIA
		4			24								1		1	2	IRAN
					4										1	2	IRAQ
					5		3									2	ISRAEL
	4	54	20				24	2	2	2	4		2	4	26	70	ITALY
		29	18		32	4	6			3			1		2	150	JAPAN
	2		20													70	KOREA (N)
		12				21	2			1	1	6	4		2	1	KOREA (S.)
					2						1			1	2	1	MEXICO
	6	46	16		5		5	1	4	1		2		2	7	14	NETHERLANDS
	4				14				1							3	NEW ZEALAND
	2	11					1			2				2		5	NORWAY
		8			4				1				1		2	1	PAKISTAN
				2	9											1	PARAGUAY
		2		7	4	4					2		3		3	2	PERU
		2			31	7	2		1	1			2		4	5	PHILIPPINES
	12	4			17				1				3	2		2	POLAND
	4	12			22				6				2	1		7	PORTUGAL
	14		22							1				1		2	RUMANIA
	2	10			10			2	1							2	SOUTH AFRICA
	13	12		1	17	8		1	3		1		4	1	10	18	SPAIN
	12	18	18		12		12		13	2		1	4	2		12	SWEDEN
	12	6			48	46	24		2	2	2		4		6	58	TAIWAN
	1	5			9	4	8		1		2		4	1	5	3	THAILAND
	13	16			30			5		2			4	1	1	5	TURKEY
	6	8			3		19				1					2	U.A.R.
		97	75		25	8	10	44	7	13		24	40		31	60	UNITED KINGDOM
					1				1				1			1	URUGUAY
5	134	33	51		88*	122	121	13	15	66	42	101	74	2	140*	238*	U.S.A.
	348	327	325	20	100	14	106	3	51	41	25	3	45	16	41	200	U.S.S.R.
					12	4			1	1	1				2	3	VENEZUELA
		3	28	3	16		7				12		6	1	8	23	YUGOSLAVIA

Note.—Figures include vessels in reserve, but not ships under construction

ADDENDA



MACKENZIE. Prototype of new class of destroyer escort. Commissioned 6 Oct. 1962 — 1962, *Royal Canadian Navy Official*

ALBANIA

Page 1.

Submarines

Four submarines of the Soviet " W " type reported to have been transferred.

Patrol Vessels

Four " Kronstadt " class submarines chasers instead of eight. Four were transferred in 1958, but two of these were exchanged for newer versions in 1960.

Inshore Minesweepers

Total of six, " T 301 " class inshore minesweepers. Acquired from U.S.S.R. in 1957-60.

Motor Torpedo Boats

Six " P 4 " class instead of five. Three " MAS 501 " ex-Italian MTBs. Five ex-U.S.S.R. (U.S.-built) 70 feet. Vosper class.

Submarine Support Ship

Measurement:	4,500 tons *deadweight*
Dimensions:	336 × 47 × 19 (*max.*) feet
Machinery:	Triple expansion steam reciprocating. I.H.P.: 2,450 = 14 kts.

Notes
" Atrek " class submarine tender reported to have been transferred from U.S.S.R.

Degaussing Ship

Dimensions:	134 × 40 × 14 (*max.*) feet

Notes
Reported to have been transferred from U.S.S.R. Built in Finland in 1956.

Oiler

NDALDHUT DAINANI

Measurement:	1,600 tons *deadweight*
Dimensions:	220 × 33 × 15 × (*max.*) feet
Machinery:	2 diesels. B.H.P.: 1,600 = 12 kts.

Notes
Reported to be Soviet built. Launched 1956.

AUSTRALIA

Page 17.

Coastal Minesweepers
6 "Ton" Class

CURLEW (ex-H.M.S. *Chediston*, ex-*Montrose*, ex-*Chediston*)
GULL (ex-H.M.S. *Swanston*)
HAWK (ex-H.M.S. *Somerleyton*, ex-*Gamston*)
IBIS (ex-H.M.S. *Singleton*)
SNIPE (ex-H.M.S. *Alcaston*)
TEAL (ex-H.M.S. *Jackton*)

Notes
Turned over to the Royal Australian Navy, commisioned and re-named in the United Kingdom during summer 1962, see former names above. Former Mirrless diesels replaced by Napier Deltic engines, air conditioned, fitted with stabiliers. Complement 3 officers, 25 ratings. Sailed from Portsmouth to Australia on 1 Oct. 1962, Constitute the 16th Mine-sweeping Squadron. See photograph of *Hawk* above.

FAST FLEET REPLENISHMENT OILER

SUPPLY (ex-*Tide Austral*)

Notes
Tide Austral was re-named H.M.A.S. *Supply* and commisioned as a unit of the Royal Australian Navy (she was formerly a Royal Fleet Auxiliary) wearing the White Ensign and commanded and manned by R.A.N. personnel, at Portsmouth on 7 Sept. 1962, and sailed for Australia on 1 Oct. 1962 in company with the six minesweepers above. Complement: 13 officers, 120 ratings.

BULGARIA

Page 27.

Destroyers

Reported that *Giorgi Dimitrov* (ex-Soviet *Ognevoi*) may have been scrapped in 1961. Ex-*Zhelyeznyakov*, ex-*Petrovski*, ex-*Korfu*, also believed to have been stricken, and " Skoryi " class no longer on list.

Submarines

Two " W " class submarines reported to have been transferred from U.S.S.R. Total of five submarines (2 " W ", 3 " MV ")

Patrol Vessels

Two " Kronstadt " class and two " Artillerist " class submarine chasers reported to have been transferred from U.S.S.R.

Minesweepers

Three " T 43 " class and four " T 301 " class minesweepers reported to have been transferred from U.S.S.R.



HAWK — 1962, *Wright & Logan*



AGH 171 — 1962, *Royal Canadian Navy Official*

Motor Torpedo Boats

Eight " P 4 " class MTBs reported to have been transferred from U.S.S.R.

Landing Craft

Ten utility landing craft. Built in Bulgaria. Length 164 feet *o.a.* Guns: 1—37 mm. Based on German Second World War design.

Tug

RAKOVSKI Russian-built. Length: 135 feet *o.a.*

CANADA

Page 31.

Naval Board

Chief of Naval Personnel:
Rear-Admiral Michael Grote Stirling, C.D.

Page 34.

Destroyer Escorts

MACKENZIE
First of a new class, commissioned on 6 Oct. 1962. See photograph above.

Page 35.

General Purpose Frigates

Weapons under consideration:—
" Tartar " surface-to-air long range guided missile
" Mauler " surface-to-air short range guided missile
5 inch, 38 cal. twin gun mounting

Page 38.

Oceanographic Research Vessel

AGH 171

Displacement:	1,540 tons
Dimensions:	215 (*w.l.*), 235½ (*o.a.*)
Aircraft:	1 light helicopter
Machinery:	Diesel electric. 2 shafts S.H.P.: 2,960 = 16 kts. (sustained)
Radius:	8,000 miles range ar 12 kts. (with 25% reserve)
Complement:	10 officers, 13 scientists, 25 ratings (plus helicopter pilot and engineer)

Notes
A new research ship specifically designed to meet the scientific requirements for under-taking programmes in anti-submarine research. Will carry a light helicopter in a telescopic hangar, and be stiffened for operating in ice covered areas. Designed by the Director General Ships and the Pacific Naval Laboratory. Schedules to be laid down in Sept. 1962 for completion at the end of 1964. See illustration above.



ALMIRANTE RIVEROS 1962, *Wright & Logan*

CHILE

Page 46

Destroyers

RIVEROS
See photograph above. Lattice maimmast.

CHINA

Page 50.
Latest strength (Nov. 1962):—
Ships: 4 destroyers, 4 destroyer escorts, 14 frigate escorts, 24 submarines, 24 patrol vessels, 150 motor torpedo boats, 61 motor gunboats, 38 minesweepers, 59 amphibious ships, 49 auxiliaries, 380 service craft.
Personnel: 81,000 officers and men, including 15,000 naval air force.

Destroyers

ANSHAN, additional name of " Gordy " class

Frigates

CH'ENG TU, KUEI LIN, KUEI YANG, K'UN MING
Names of 4 " Riga " class Escort Type

Submarines

17 " W " class, plus four other uncompleted " W " class hulls, work on which has stopped. 4 " S " class, transferred from U.S.S.R. in 1954-55. 3 " MV " class, transferred from U.S.S.R. in 1954-55. Deleted from list: 4 " Shshuka " class, 1 MIV class, 1 MI class

Fleet Minesweepers

It is reported that there are now 12 " T-43 " class fleet minesweepers.

Page 52.

Coastal Minesweepers

It is reported that only four ex-U.S. YMS type remain

Motor Gunboats

12 "Shanghai" Class

12 " Shanghai " Class

Displacement:	100 tons *full load*
Dimensions:	120 × 18 × 5½ feet
Guns:	4—37 mm. in twin mountings
Machinery:	4 diesels. B.H.P.: 4,800=28 kts.
Complement:	21

44 "Swatow" Class

Displacement:	67 tons *full load*
Dimensions:	83½ × 20 × 6 feet
Guns:	4—37 mm. in twin mountings, 2—12.7 mm.
A/S Weapons	8 depth charges
Machinery:	4 diesels. B.H.P.: 4,800
Complement:	17

Notes
Have " P—6 " type motor torpedo boat hulls with torpedo tubes removed

Ex-U.S. Type

It is reported that only one of this type now remains.

Motor Torpedo Boats

It is reported that there are now approximately 80 " P6 " class MTBs with wooden hulls, and approximately 70 " P4 " class MTBs with aluminium hulls.

Page 54

Landing Ships

There are now 20 ex-U.S. LSTs in naval service and eleven other ex-U.S. LSTs in the merchant service.

DENMARK

Page 60.

Frigates

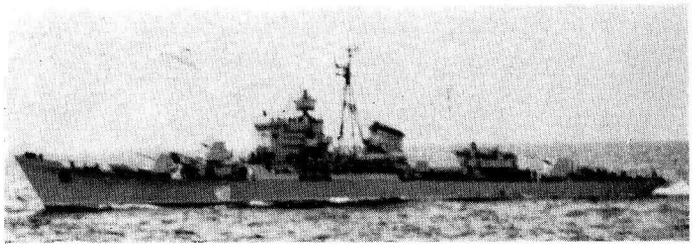
3 Ex-British "Hunt II" Class

ROLF KRAKE (ex-H.M.S. *Calpe*) to be returned to the United Kingdom at Rosyth, 1962.

Minelayers

4 New Construction MMC Type

MMC-4, building under U.S. offshore procurement for Denmark (U.S.N. hull number).



ERNST THÄLMANN 1962

FRANCE

Page 93.

Assault Landing Ships

TDC I has been allocated the name **OURAGAN**

Page 96.

Surveying Vessels

Four new surveying vessels have been allocated the names **ALIDADE, OCTANT, ASTROLABE, BOUSSOLE.** The first two are now building at Le Trait (At. & Ch. de la Seine Maritime).

GERMANY

Page 102.

Submarines

12 New Construction

Pennant numbers: **U1:** S 180, **U2:** S 181.

Page 105.

Inshore Minesweepers

Pennant numbers: *Orion* M 1053, *Pollux* M1054, *Sirius* M 1055, *Mars* M 1058, *Stier* M 1061, *Schütze* M 1064, *Atair* M 1067, *Deneb* M 1089, *Steinbock* M 1091, *Pluto* M 1092, *Neptun* M 1093, *Widdei* M 1094, *Hercules* M 1095, *Fische* M 1096, *Gemma* M 1047, *Capella* M 1098, *Uranus* M 1099, *Pegasus* M 1256.

GERMANY (EAST)

Page 108.

Frigates

See new photograph of **ERNST THÄLMANN** numbered 401.

Corvettes

There are reported to be only four " Habicht I " class, with numbers 720, 740, 760, 780, employed as patrol escort ships instead of minesweepers. Two are reported as being converted to rescue ships, 1961.

Patrol Vessels

There are reported to be 14 " S.O.I." type submarine chasers, the two latest acquired from U.S.S.R. in 1961.

Displacement:	115 tons
Dimensions:	138 (*o.a.*) × 20 × 10 (*max.*) feet
Guns:	6—25 mm. AA. (3 twin mounts)
A/S Weapons:	4 ahead throwing launchers, 2 D.C.T.
Machinery:	3 diesels. B.H.P.: 3,500=26 kts.
Complement:	30

It is reported that the " Hai " class prototype has not yet completed construction. Has two large funnels abreast. To be fitted with gas turbines in addition to diesels.

Minesweepers

37 "Schwalbe II" Class

Displacement:	100 tons *standard*
Dimensions:	105 (*o.a.*) × 18 × 3½ (*max.*) feet
Machinery:	2 diesels. B.H.P.: 380=12·5 kts.
Complement:	13

Notes
Built in 1955-57 at Yachtwerft, Berlin.

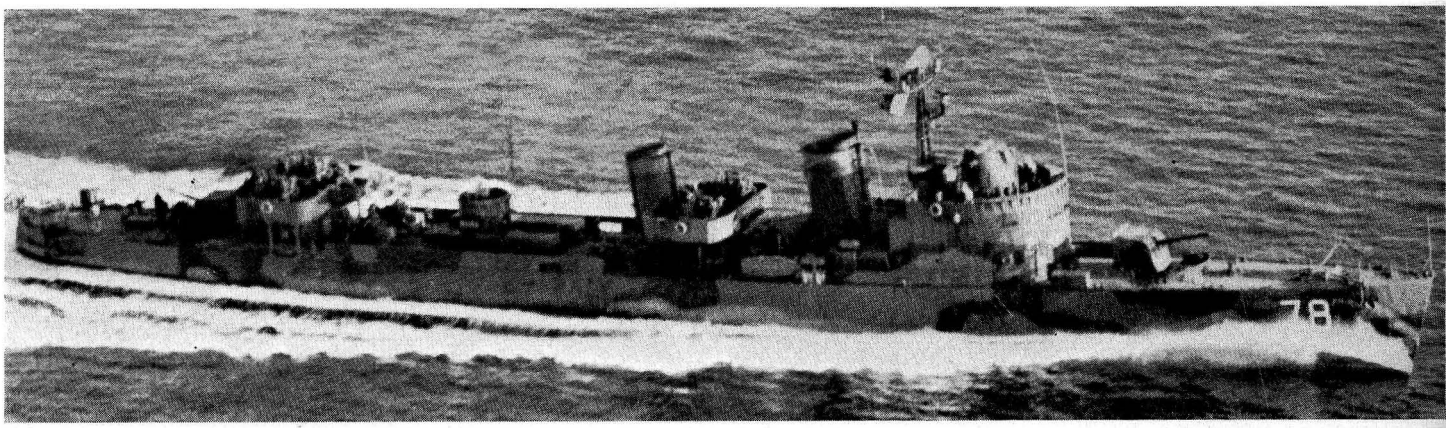
Motor Torpedo Boats

27 "P6" Class

HANS BEIMLER **HANS COPPI** **JOSEF ROEMER**

Displacement:	67 tons
Dimensions:	83 × 20 × 6 (*max.*) feet
Guns:	8—25 mm. (4 twin mountings)
Tubes:	2—21 inch
Machinery:	4 diesels. B.H.P.: 4,800=43 kts. (*max*).
Complement:	14

Notes
Names include those reported above. Wooden hull.



MALMÖ as converted to fast anti-submarine frigate with two 4.7 inch guns — 1962, *A. Kull*

Germany (East)—*continued*

"Iltis" Class

Dimensions: 43 × 10½ × 2½ (*max.*) feet
Machinery: 2 diesels. B.H.P.: 2,400 = 50 kts.

Notes
Four new construction MTBs of this class reported.

Page 109.

Harbour Defence Boats

There are reported to be only 12 " Tummler " class boats.

Oilers

Displacement: 1,000 tons *full load*
Dimensions: 195 (*o.a.*) × 29½ × 12½ (*max.*) feet
Machinery: 2 diesels. 2 shafts. B.H.P.: 2,800 = 14 kts.
Complement: 26

Notes
Three oilers of the same class are reported, of above particulars. Built at Peenewerft, Wolgast, 1960-61 (last two 1961).

GHANA

Inshore Minesweepers

See new official photograph of **YOGAGA** above.

INDIA

Page 121.

Destroyers

It is reported that a destroyer is to be laid down very shortly at Mazagon Dock and a second will be ordered later, the largest ships yet built for the Indian Navy in an Indian shipyard.

Page 122.

Frigates

It is reported that **AFONSO DE ALBUQUERQUE,** former Portuguese frigate disabled and taken in the Goa conquest in Dec. 1961, will join the Indian Navy after repairs.

INDONESIA

Page 125.

Cruisers

IRIAN
Notes
Former Soviet cruiser of the " Sverdlov " class transferred from the U.S.S.R. to Indonesia where she arrived in October. Reported to be ex-*Ordzhonikidze*.

Destroyers

ISKANDAR MUDA
The above name is reported to have been assigned to a " Skoryi " class destroyer transferred to Indonesia by the U.S.S.R.

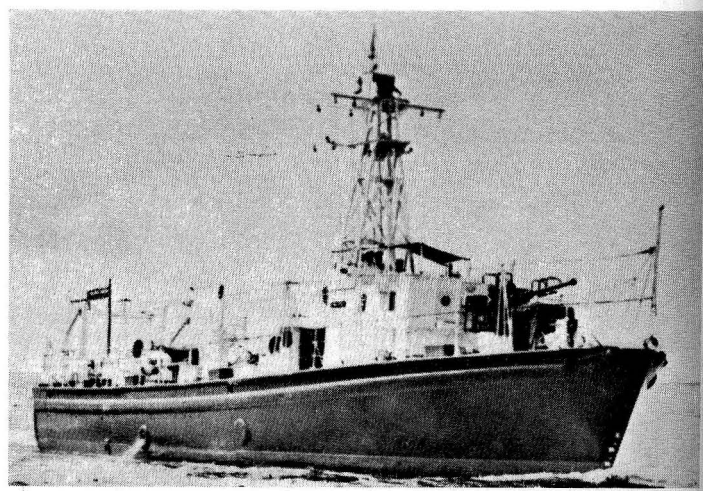
Frigates

It is reported that two " Riga " class frigates accompanied the cruiser *Irian*, and it is officially stated that the new cruiser and frigates were on show in the bay of Djakarta on Indonesian Armed Forces Day, 5th October. Two more vessels of the " Riga " class are expected before the end of the year, it is reported.

Submarines

Ex-U.S.S.R. "W" Class

It is reported that four " W " class submarines which arrived in Indonesia on 28 June, 1962 brought to a total of 12 the units of this class transferred to Indonesia by Russia, but that only four or six will be kept operational and the remainder will be used for spare parts.



YOGAGA — 1962, *Ghana Navy, Official*

Page 126.

Guided Missile Boats

It is reported that Soviet built " Komar " class missile patrol boats were transferred to Indonesia in 1962.

Page 128.

Submarine Parent Ship

An " Atrek " class submarine tender arrived in Indonesia on 28 June 1962, and a " Don " class submarine tender (Soviet pennant number 441) in July, both as transfers from the U.S.S.R.

IRAN

Page 129.

Frigates

PF 103 — **PF 104**

Displacement: 1,135 tons *full load*
Dimensions: 275 (*o.a.*) × 33 feet

Notes
Patrol frigates of above USN numbers building by Levingstone Shipbuilding Co., Orange, Texas, for transfer from the U.S.A. to Iran under the Military Aid Programme.

Coastal Minesweepers

KARKAS (ex U.S.S. *MSC 292*)
Notes
Built at Sturgeon Bay, Wisc. and transferred to Iran at Boston, Mass. in June 1962 under MAP.

SOUTH AFRICA

Page 206.

Anti-Submarine Frigates

PRESIDENT KRUGER commissioned on 1 Oct. 1962.
PRESIDENT PRETORIUS launched on 28 Sep. 1962.

SWEDEN

Page 222.

Fast Anti-Submarine Frigates

5 "Göteborg" Cless

MALMÖ has only two 4·7 inch guns. See new photograph above.
Revised Pennant Nos.
77 Stockholm, 78 Malmö, 79 Karlskrona, 80 Gavle, 81 Norrköping.



ALBION 1962, *Official*

UNITED KINGDOM

Page 246.

Board of Admiralty

Vice Chief of Naval Staff

Vice Admiral J. B. Frewen, C.B., to be a Lord Commissioner of the Admiralty and Vice Chief of Naval Staff in Feb. 1963, in succession to Vice Admiral Sir Varyl Cargill Begg, K.C.B., D.S.O., D.S.C.

Page 246.

Principal Admiralty Technical Officers

Director General, Weapons

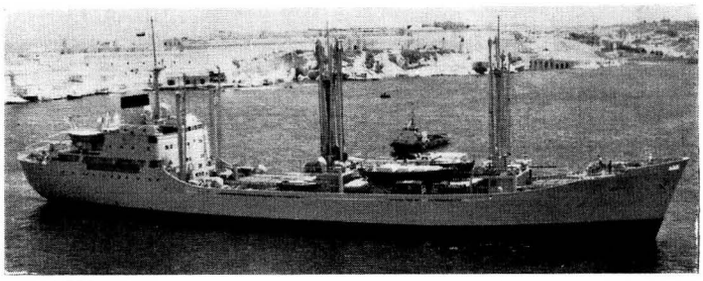
Admiralty announced on 27 Sep. 1962:—Captain C. P. Mills, C.B.E., D.S.C., R.N. to be Director General, Weapons, in the acting rank of Rear Admiral, in succession to Rear Admiral R. E. Washbourn, C.B., D.S.O., O.B.E., the appointment to take effect in November. Captain Mills to be confirmed in the rank of Rear Admiral on 7 Jan. 1963.

255.

Commando Carriers

ALBION

See first official photograph of the Royal Navy's second commando carrier. Page 290.



HEBE 1962 *A. & J. Pavia*

Poge 290.

Fleet Supply Ships

2 "Bacchus" Class

HEBE

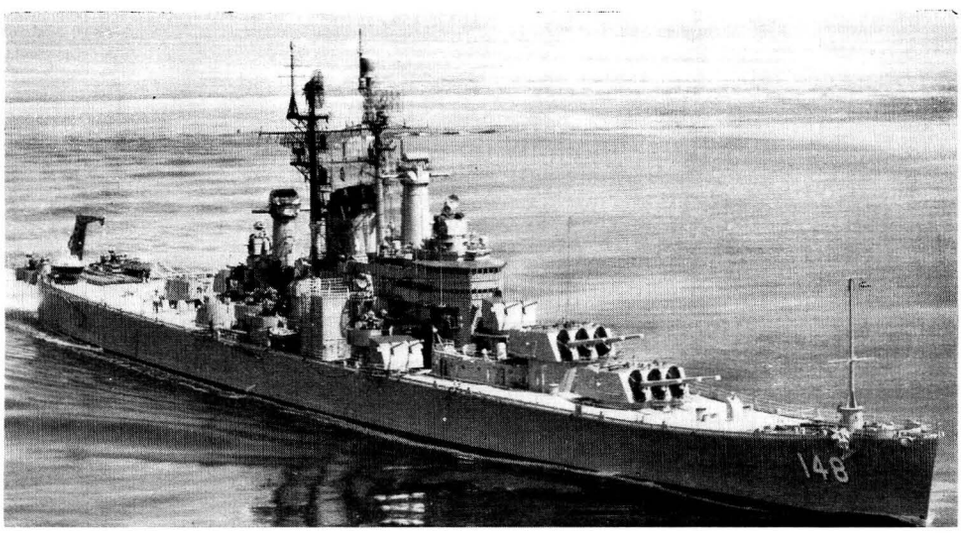
New store carrier. See photograph.

Page 256.

Cruisers

Recent Disposals of older Cruisers

Swiftsure towed from Chatham for breakers' yard, Firth of Forth, on 12 Oct. 1962.



NEWPORT NEWS after refit as Second Fleet Flagship 1962, *United States Navy, Official*

Page 260.

Destroyers

BATTLEAXE

Recent Disposal

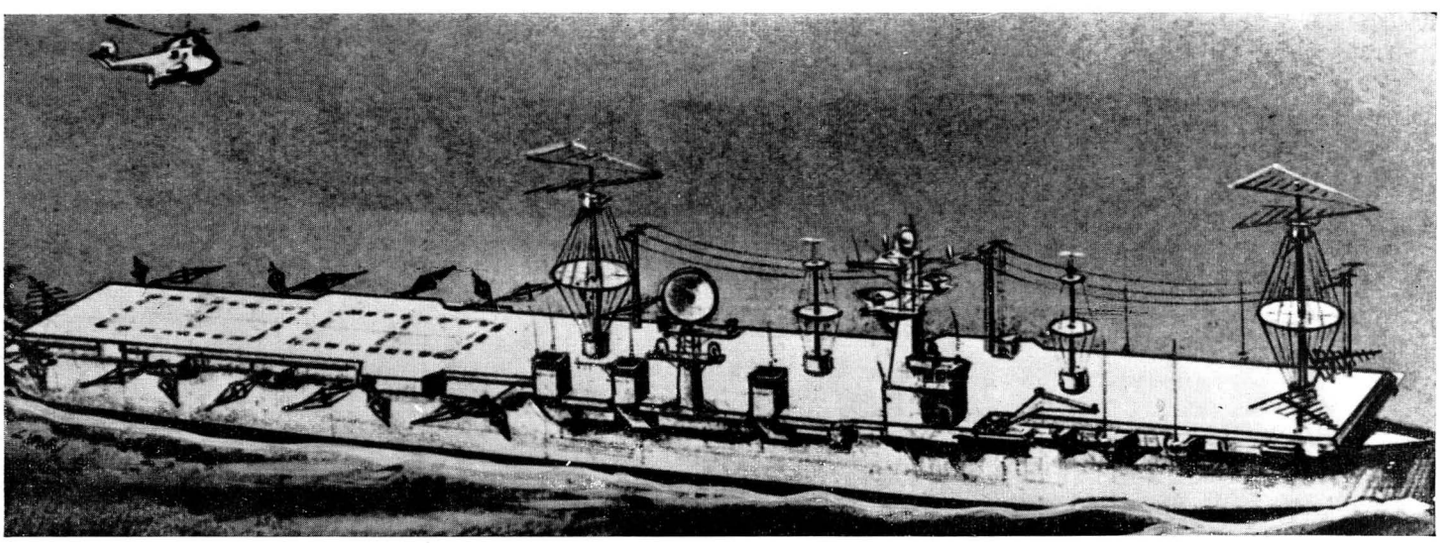
It was officially confirmed on 18 Sep. 1962 that the fleet radar picket *Battleaxe*, which was in collision with the frigate *Ursa* on the night of 1 Aug. 1962, is to be scrapped, as she is beyond economical repair.

Page 263.

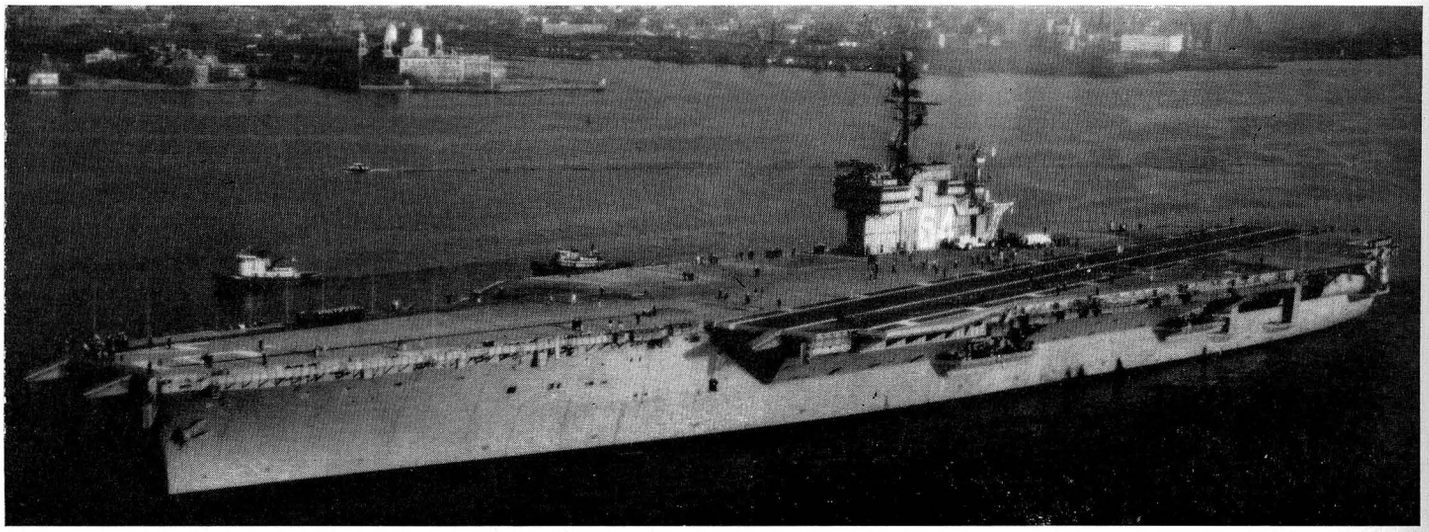
General Purpose Frigates (A/S)

"Leander" Class

Admiralty announced on 4 Oct. 1962 that contracts for three more "Leander" class frigates have been placed, one with H.M. Dockyard, Portsmouth, one with Vickers-Armstrongs (Shipbuilders) Ltd., and one with Alex. Stephen & Sons Ltd., Glasgow, bringing the total of this class to 13.



WRIGHT (Conversion into Command Ship). 1962, *United States Navy, Official*



CONSTELLATION 1962, *United States Navy, Official*

United Kingdom—*continued*

Page 264.

General Purpose Frigates (Gas Turbines)

7 "Tribal" Class

NUBIAN, second ship of the class, commissioned in H.M. Dockyard, Portsmouth, on 9 Oct. 1962.

Page 273.

Nuclear Powered Submarines

DREADNOUGHT

Reported to be ready for initial trials.

Page 274.

Submarines

"Oberon" Class

OTUS

Launched on 17 Oct. 1962

The 13th unit of the "Oberon" class was laid down on 27 Sep. 1962 in H.M. Dockyard, Chatham (the fourth of the class in this yard).

UNITED STATES

Page 304.

Attack Aircraft Carriers

CONSTELLATION

The latest of the U.S. Navy's largest conventionally powered aircraft carriers, see photograph above.

Page 310.

Command Ship

(Former Aircraft Carrier)

WRIGHT

Former aircraft carrier reclassified as command ship, see illustration at bottom of previous page.

Page 315.

Heavy Cruiser

NEWPORT NEWS

See photograph after refit with antennae mast forward (on previous page).

Page 325.

Nuclear Powered Guided Missile Leader (Frigate)

BAINBRIDGE

World's first nuclear powered frigate commissioned on 6 Oct. 1962.

325

Guided Missile Armed Destroyer Leaders (Frigates)

LEAHY

First of a new class of guided missile armed destroyer leaders (frigates), see photograph below (commissioned 4 Aug. 1962).

Page 350.

Nuclear Powered Fleet Ballistic Missile Submarines

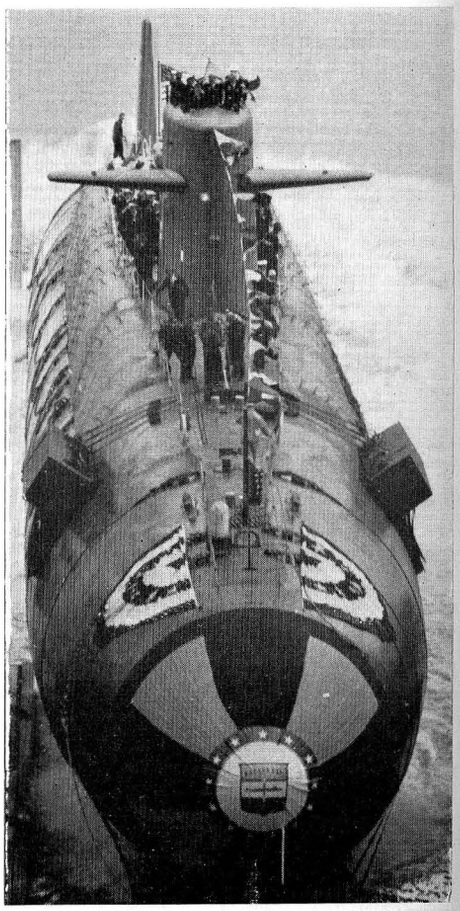
LAFAYETTE

Prototype of new class of nuclear powered "Polaris" armed submarines, the largest submarines ever built, see photograph on right.

Page 367.

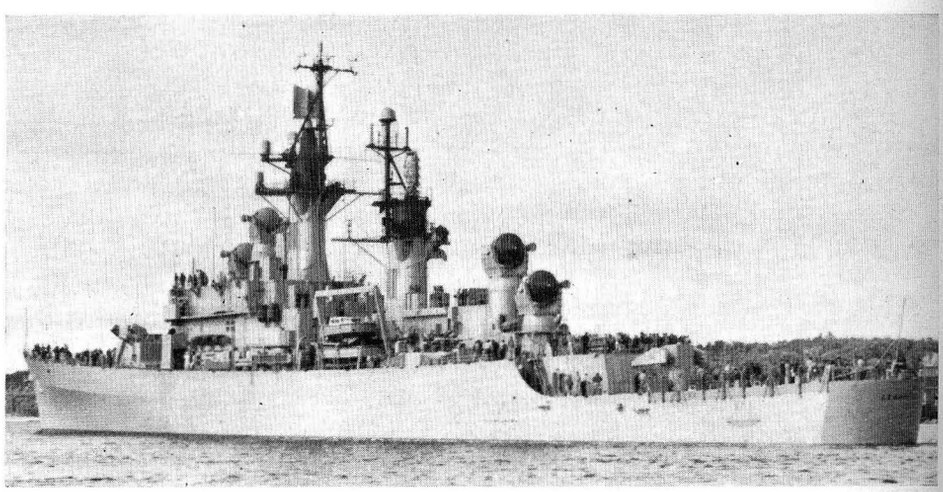
Patrol Vessels

Six new construction patrol craft building by Gunderson Brothers, Portland, Oregon, to be fitted with two 2,400 H.P. diesels. PC 1638 class.

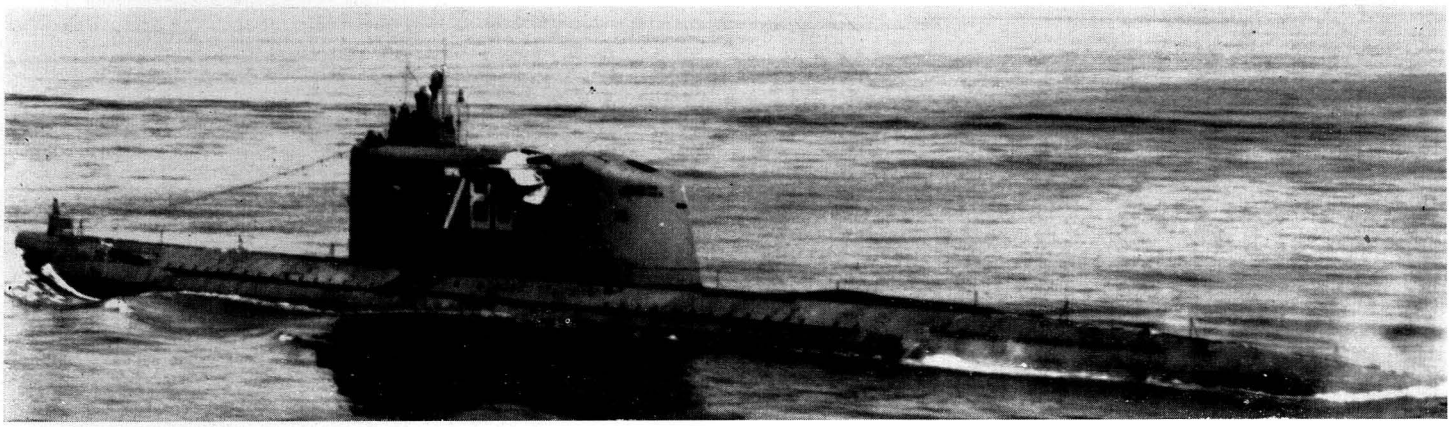


LAFAYETTE 1962, *General Dynamics.*

Prototype of a new class of nuclear powered "Polaris" submarines, the largest undersea craft ever built.



LEAHY. Prototype of new class of guided missile frigates. 1962, *United States Navy, Official.*



No. 780. Soviet Ballistic Missile Submarine. Side opening hatches open. 1962, *U.S. Dept. of Defense.*

United States—*continued*

Page 367.

U.S.N. Official statement:—

WINGED HULL VESSEL TESTED AS LINK BETWEEN SEA AND AIR TRAVEL

Research engineers of the Lockheed California Co. are " flying " a motoboat—an experimental winged test vehicle that skims just above the water surface—at the Navy's Morris Dam Lake in the San Gabriel Mountains northeast of Pasadena.

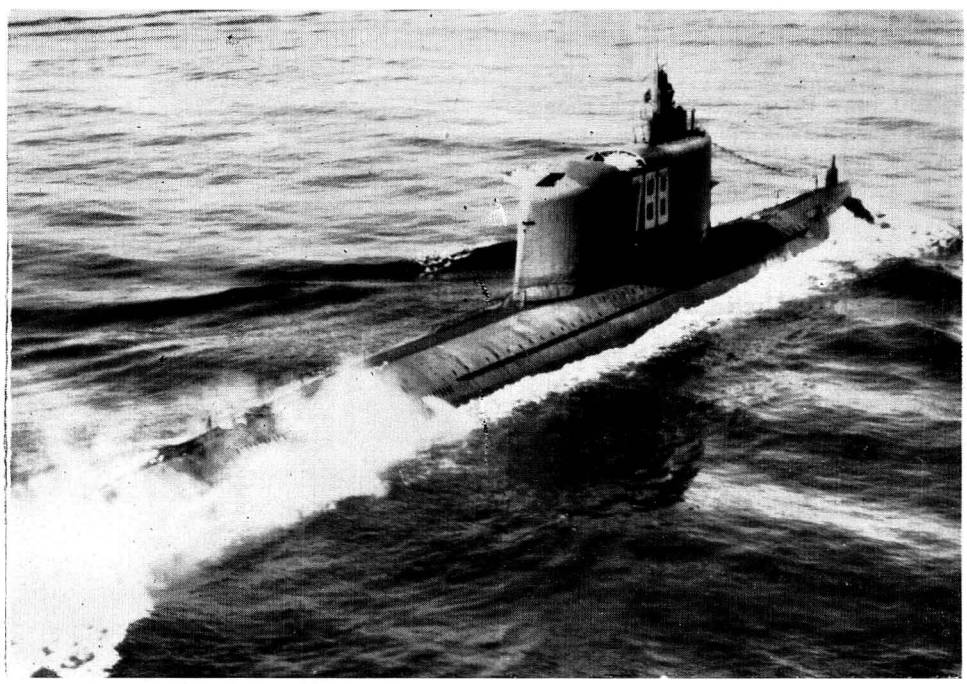
Envisioned as leading to speedy cargo ships travelling above water and ice, the radically new ' winged hull ' concept is potentially much faster than conventional ships and more economical to operate than aircraft. This design could fill the transportation gap between surface and airborne vehicles in the cruising range between 30 and 200 knots.

Moving above the water surface, the winged vehicle reaches an air-cushioned speed of 45-knots—almost 50 per cent increase over the top velocity of the wingless version of the same craft. When wearing its wings and underway, the test vehicle is out of the water with the exception of the propeller and a pair of temporary skies on the bow (for stability).

Engineers foresee that for most future winged hull craft even the propulsion system will be above the sea surface, This means the vessel will be capable of travelling over the normal hazards of ice, sand bars, reefs, and shoals to berth in a protected area.

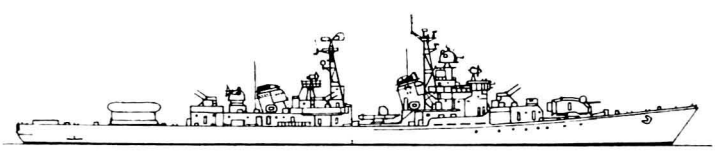
Military possibilities also are seen for the winged hull concept since the vehicle will fly close to the water, staying under radar coverage pick-up.

The present Lockheed designed two man motorboat, equipped with removable wings, has been demonstrating the feasibility of the winged hull concept during tests in this full scale prototype for more than a year.

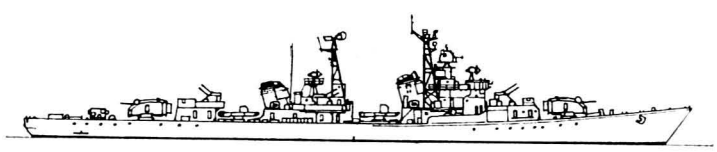


No. 788. Soviet Ballistic Missile Submarine. 1962, *U.S. Dept. of Defense.*

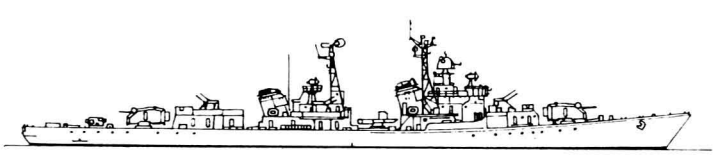
U.S.S.R.



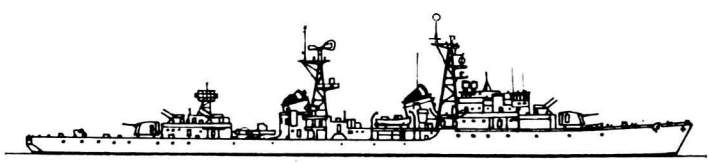
"Kotlin" Class destroyers armed with guided missiles 1962, *Augusto Nani*



"Kotlin" Class 1962, *Augusto Nani*



No. 502. Modified "Kotlin" Class 1962, *Augusto Nan*



No. 580. "Skoryi" Class 1962, *Augusto Nani*

Page 405.

Destroyers

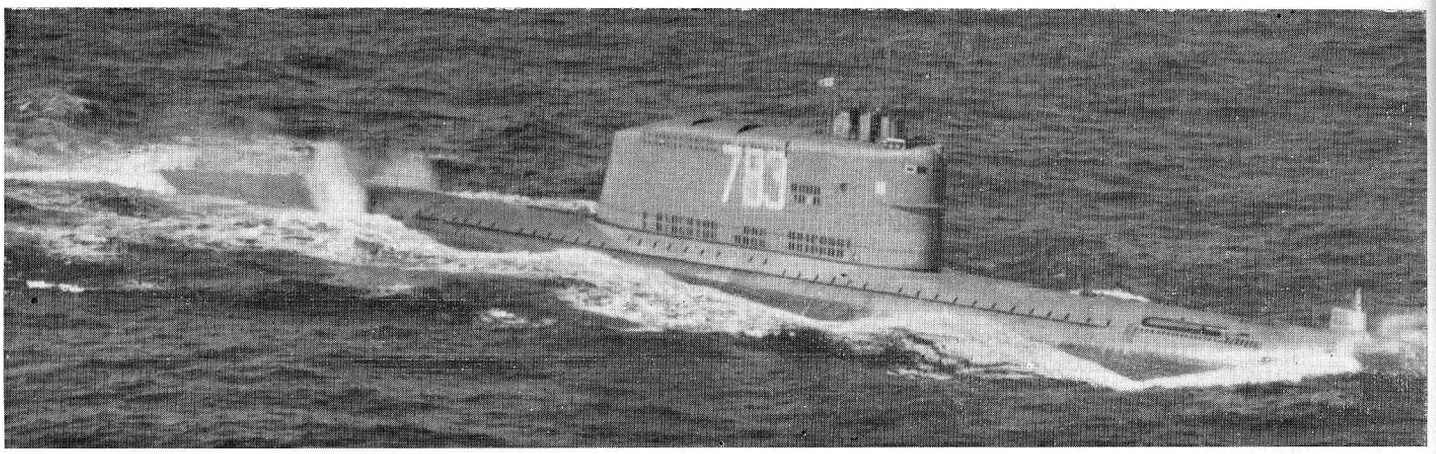
27 "Kotlin" Class

In this class there now appear to be several variations of the original design, some units having been modernised, some fitted for anti submarine warfare, and some equipped with a surface-to-air twin missile launcher aft. See drawings above.

Destroyers

72 "Skoryi" Class

It is reported that this is no longer a homogeneous class, and comprises a number of differing types intended for specific roles as anti-submarine escorts, air direction ships, and anti-aircraft vessels. Others have been modernised without much outward alteration.



No. 783. "G" Class Guided Missile Submarine (Soviet) 1962, *U. S. Navy, Official*

U.S.S.R.—*continued*

Page 410

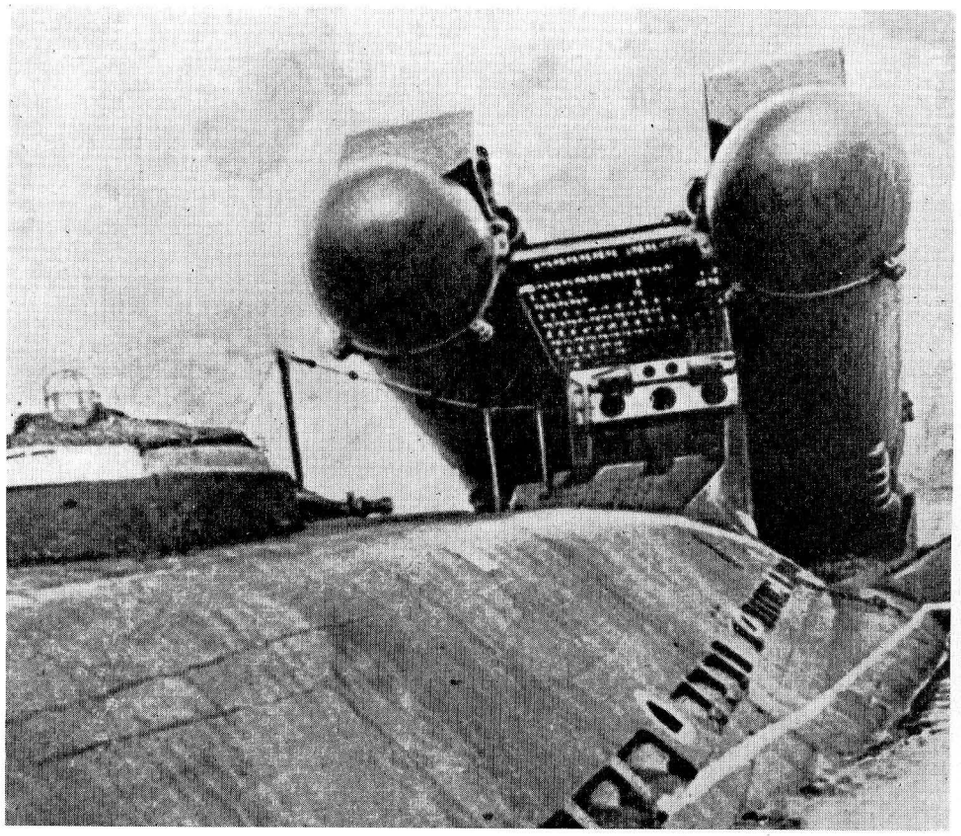
Nuclear Powered Submarines

More than twelve nuclear powered submarines are reported to be operational and on station. Some are operating in the Pacific, some in the Atlantic, and some are in commission in the White Sea.

Guided Missile Submarines

There are reported to be 30 guided missile submarines, ten of which are nuclear powered. The missiles are limited in numbers and in range (350 miles).

Submarines such as Nos. 780 and 783 (see photographs on previous page) have been sighted recently by the U.S. Navy in the course of normal operations in both the Atlantic and Pacific. With enlarged conning tower, fairwaters, they are believed to be capable of firing three relatively short range ballistic missiles from vertical tubes located in the tower.



Twin ballistic missile launcher on Soviet submarine 1962

Attack Submarines

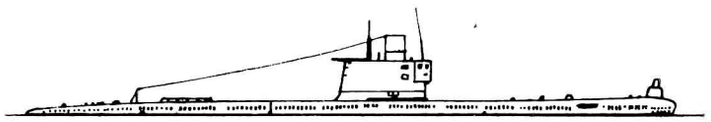
13 "R" Class

There appear to be variations in appearance, see drawing.

Repair Ships

"Dnepr" Class

See drawing of new repair ship for fleet support and maintenance. Displacement over 4,000 tons.
Page 423.

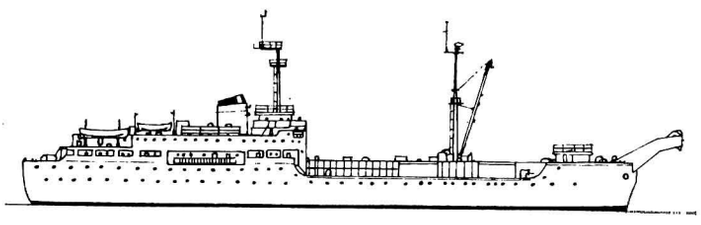


No. 202. "R" Class 1962, *Augusts Nani*

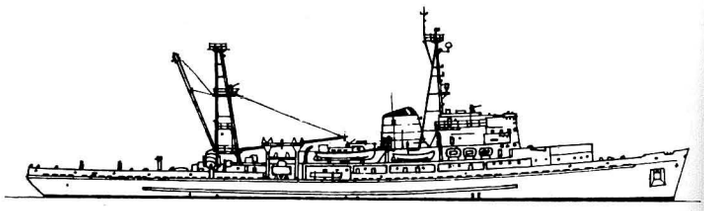
Salvage Vessels

"Prut" Class

See drawing of new large rescue ship equipped for all types of salvage and diving.



PM 17. Repair Ship. "Dnepr" Class 1962, *Augusto Nani*



MB 23. M.B 23. Salvage Ship. "*Prut*" Class *Augusts Nani*

GENERAL INDEX

(Named Ships only)

GENERAL INDEX

(Named Ships only)

Abbreviations in ( ) following the name of the ship indicates the country. No abbreviations denotes Great Britain.

A	Argentine	Eg	Egypt	J	Japan	Ro	Roumania
Bel	Belgium	F	France	Kor	Korea	R.N.Z.N.	New Zealand
Br	Brazil	Finland	Finland	M	Malaya	Pak	Pakistan
Bul	Bulgaria	Ger	Germany	Mex	Mexico	Rus	U.S.S.R.
Bur	Burma	Gr	Greece	N	Netherlands	S.A.	South Africa
Cey	Ceylon	Haiti	Haiti	Nor	Norway	Sp	Spain
Chil	Chili	Hon	Honduras	Pan	Panama	Sw	Sweden
C	China	Hun	Hungary	Para	Paraguay	Th	Thailand
Col	Colombia	I	Italy	Per	Persia	T	Turkey
Cu	Cuba	Ice	Iceland	P	Peru	U.S.	United States
Da	Denmark	In	India	Phil	Philippines	Ur	Uruguay
Dom	Dominican Republic	Ind	Indonesia	Po	Poland	Ven	Venezuela
		Ir	Iraq	Port	Portugal	V.N.	Viet Nam
EA	East Africa	Iri	Ireland	R.A.N.	Australia	Yu	Yugoslavia
Ec	Ecuador	Is	Israel	R.C.N.	Canada	Zan	Zanzibar

A

	Page
Aalsmeer (N)	172
Aarosund (Da)	62
Abbot (U.S.)	337
Abbotsham	283
Abcoude (N)	172
Abdia Mendez (Col)	57
Abdon Calderon (Ec)	69
Abercrombie (U.S.)	343
Aberford	287
Aberwrach (F)	98
Abete (I)	143
Abhay (Ind)	124
Ability (U.S.)	365
Abnaki (U.S.)	387
Aborren (Sw)	224
Abraham Lincoln (U.S.)	351
Absecon (U.S.)	395
Abtao (P)	191
Abukuma (J)	157
Acacia (F)	94
Acacia (I)	143
Acacia (U.S.)	398
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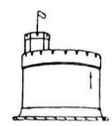
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